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To the Hon.ble

John Adams Esq.r

Minister Plenipotentiary

from the United States of

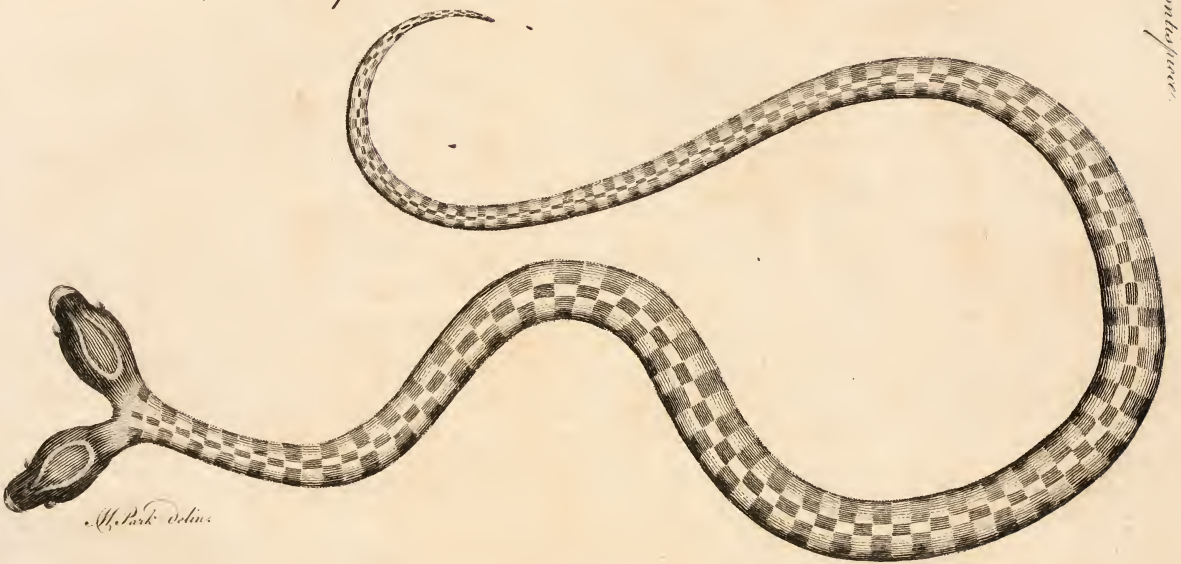
America to his Brittanic

Majesty this Volumes

is very respectfully offered

by the Author.

Amphisbæna, or Double headed Snake.



M. Park. delin.

This Snake was found near Lake Champlain in America, in the Year 1761. by Lieu.t Moses Park *See Page 214.*

AN

ESSAY

ON THE

NATURAL HISTORY

OF

GUIANA,

In SOUTH AMERICA.

CONTAINING

A Deſcription of many Curious PRODUCTIONS in the ANIMAL and VEGETABLE SYSTEMS of that Country.

Together with an Account of

The RELIGION, MANNERS, and CUSTOMS of ſeveral Tribes of its *Indian* Inhabitants.

Interſperſed with

A Variety of Literary and Medical OBSERVATIONS.

In SEVERAL LETTERS

FROM

A GENTLEMAN of the MEDICAL FACULTY, During his Reſidence in that Country.

— Ad res pulcherrimas ex tenebris ad lucem erutas alieno labore deducimur.

SENECA, *De brevitate vitæ*, cap. xiv.

LONDON,
Printed for T. BECKET and P. A. DE HONDT in the Strand. MDCCLXIX.

3627

ADAMS
Nol. V

TO

WILLIAM PITCAIRN, M. D.

FELLOW of the Royal COLLEGE of PHYSICIANS in LONDON,

AND

PHYSICIAN of ST. BARTHOLOMEW'S HOSPITAL,

This ESSAY

Is Inſcribed,

With Reſpect and Gratitude,

By his moſt humble,

and moſt devoted Servant,

EDWARD BANCROFT.

TO

WILLIAM PITCAIRN, M.D.

F.R.S. one of the Royal College of
Physicians in London,

&c. &c.

Physician to the Hospitals
IN FLANDERS,

THIS ESSAY

Is Inscribed,

With Respect and Gratitude,

By his most obedient Servant,

The Author.

Advertiſement.

THE Author of this Eſſay had determined to conceal his Name from the Public; but ſince the LETTERS and Title Page were printed, his Friends have repreſented the impropriety of publiſhing an Account of the unknown Productions of an almoſt unknown Country, on the ſlender ſupport of anonymous Authority; and the juſtice of their remonſtrance overcoming his juvenile timidity, has encouraged him to ſubſcribe his Name to the Dedication; not with a preſumptuous expectation of acquiring Honour from the Work, but ſolely to add to its Credibility.

Theſe

These LETTERS originally contained only the more curious Particulars in the Animal and Vegetable Systems of *Guiana*, and many things have been since added, from the Writer's Memoirs, which were made without design of publication, and in several instances do not descend to such minute objects as he could have wished; and he is too sensible of the imperfections of memory to add much on that authority.

The Order which has been observed in these Descriptions, though somewhat unusual, appears most natural, and is exposed to fewest inconveniencies. Had the Author first described the Manners and Customs of the Inhabitants, it would have been necessary to suppose many things known, with which the Reader could not be acquainted, and conse-

conſequently the Deſcriptions, in many particulars, muſt have been unintelligible, or the Writer muſt have recurred to frequent repetitions, which are now avoided.

It is neceſſary to inform the Reader, that the Author's Obſervations on this Subject, have been confined within the limits of the *Dutch* territories in *Guiana*; thoſe of *Spain* being inacceſſible to Foreigners, with whom all intercourſe is prohibited: nor is the communication with the *French* and *Portugueſe* Colonies, on this Coaſt, much leſs embarraſſed. So imperfect has our knowledge of this Country hitherto been, that the lateſt Compilers of Modern Hiſtory have not been able to determine whether its native *Indians* lived in congregated multitudes, inhabiting ſplendid opulent cities; or whether, as is the caſe,

caſe, they were diſperſed in families over the whole country, agreeable to the natural and primitive ſimplicity of mankind.

Guiana, on account of the diverſity and fertility of its ſoil, together with its vicinity to the Æquator, affords almoſt all the productions of the different *American* Countries between the Tropics, whether inſular or continental, beſides a variety of curious objects peculiar to itſelf; from all which the Author flatters himſelf, that this Eſſay will not be unacceptable to the Public.

AN ESSAY ON THE NATURAL HISTORY OF GUIANA.

Rio Demerary, July 8, 1766.

Dear BROTHER,

IN compliance with your reiterated desires, and my repeated promise, I propose in this, and several subsequent Letters, to give you an Essay on the Natural History of

GUIANA; a country, which, except its ſea coaſt, and the lands adjacent to its rivers, remains hitherto unexplored, by the ſubjects of any *European* State, and unknown to all, but its aboriginal Natives. Yet if we may be allowed to form an idea of things undiſcovered, by the immenſe variety, uncommon mechaniſm, and properties, of its Animal and Vegetable Productions, which have ſpontaneouſly preſented themſelves within the confined limits, to which our indolent enquirers have extended their obſervations, we may juſtly conclude, that the bleſſings of Nature, have in no part of our habitable ſyſtem, been diſpenſed with a more liberal hand, and that no part of this Terreſtrial Globe, affords more abundant cauſe, to admire and adore, the ſtupendous Power, Wiſdom, and Beneficence of its Creator.

I muſt

I muſt, however, previouſly tell you, that you have engaged me, to aſſume a taſk, to which I am conſcious, that my ſlender abilities, are very unequal, and which I am particularly unable to execute with advantage, from the little acquaintance I have had with the ſtudy of Botany, and my entire ignorance of the art of Drawing, which would have enabled me, agreeably to illuſtrate my verbal deſcriptions. I am likewiſe but little acquainted with the *Indian* languages, which are indiſpenſably neceſſary, for acquiring that knowledge of the properties, and effects of the ſeveral claſſes of Animals, and Vegetables, which experience, during a long ſucceſſion of ages, muſt have ſuggeſted to theſe natives. I have, in vain, endeavoured to overcome this difficulty, by the aſſiſtance of an Interpreter.

An intercourſe, ſupported through ſuch an imperfect medium, muſt ever be confined, precarious, and diſagreeable. Add to this, in my preſent ſituation, I am almoſt entirely deſtitute of books, by which I might correct my errors, and elucidate my ideas, and conſequently debarred, from imitating the practice of authors, who pretty generally purſue the advice of *Seneca* *, with advantage. Perhaps, however, this deprivation, may not be very conſiderable, ſince little has been wrote on this ſubject, which can deſerve attention.

* Nos quoque has Apes (qui flores ad mel faciendum idoneos carpunt et qui collegerunt, in hunc ſaporem mixtura quadam, et proprietate ſpiritus ſui mutant) debemus imitari; et quæcunque ex diverſa lectione congeſſimus, ſeparare: Deinde adhibita ingenii noſtri cura, et facultate, in unum ſaporem, varia illa libamenta confundere: ut etiam ſi apparuerit unde ſumptum ſit, aliud tamen eſſe, quam unde ſumptum eſt, appareat. *Epiſt.* 84.

Yet

Yet notwithſtanding theſe difficulties, I have reſolved to proſecute my undertaking, not only in compliance with your deſires, to which I ſhall ever pay the moſt affectionate attention, but from conſidering, that though this country, has been diſcovered for more than two centuries and an half, and has, at different periods, ſince its diſcovery, been inhabited by the ſubjects of many *European* Powers, yet it ſtill continues almoſt wholly unknown in *Europe*; no deſcription of it worthy of notice having ever been publiſhed; and indeed, if we reſolve to wait until the ſubject is aſſumed by a capacity adequate to its extent and importance, we ſhall probably continue in our preſent ignorance a much longer term; as few, who viſit theſe countries, are qualified for the undertaking, and all are more attentive to the acqui-

ſition of wealth, than natural knowledge.

GUIANA was firſt diſcovered by *Chriſtopher Columbus*, in the year 1498. It is ſituated between the ſeventh degree of north, and the fifth degree of ſouth latitude, and between the fifty-third, and ſixtieth degrees of longitude weſt from *London*. It is bounded on the north and eaſt by the *Atlantic Ocean*, on the weſt by the great river of *Oronoque*, on the ſouth by the river of the *Amazons*, and on the ſouth weſt by the river *Negro*. The communication of this river with the two former, which was originally believed, and afterwards univerſally denied, on ſtrength of mere conjecture, is now ſufficiently demonſtrated; and *Guiana*, which by the river of the *Amazons*, is divided from *Braſil*, by the river *Oronoque*, from *Terra Firma*,

Firma, and by the *Negro*, from the kingdom of *Peru*, is by this communication converted into an iſland, the largeſt which has been hitherto diſcovered.

The ſea-coaſt from the mouth of the river *Oronoque* to that of the *Amazons*, is near three hundred leagues in length, running from *Cape Barimer* near the *Oronoque*, to the river *Demerary*, which is upwards of twenty leagues, in a courſe nearly eaſt ſouth eaſt; and from thence to *Cape Orange*, near the river *Oyapock*, with ſome variation ſouth eaſt by eaſt; from thence to the iſland of *Maraca*, and the *North Cape*, it ſhapes nearly ſouth by eaſt half eaſt, continuing from thence to the river of *Amazons*, in a courſe nearly ſouth.

Several revolutions have happened in the property of *Guiana*, ſince its diſcovery; but it is now divided between the *Spaniards*, *Dutch*, *French*, and *Portugueſe*; the *Spaniards*, however, have no other poſſeſſions in this country, except their ſettlements, on the eaſtern ſide of the river *Oronoque*, near the confines of its limits, and therefore, can hardly be included, among the proprietors of *Guiana*.

The *Dutch* territory is bounded by the *Spaniſh* ſettlements on the weſt, and by the river *Maroni* on the eaſt. Within theſe limits are the following large navigable rivers, diſcharging themſelves into the *Atlantic Ocean*, viz. *Pomaroon*, *Eſſequebo*, *Demerary*, *Berbice*, *Currantine*, *Surinam*, and *Merriwina*, ſituated from weſt to eaſt in the order in which they

they are mentioned. A more particular deſcription of theſe rivers, with their ſettlements, will be the ſubject of a future Letter.

The *French* territory includes the river *Maroni*, which is the boundary to the *Dutch* poſſeſſions on the weſt, and extends to the territory on the north ſide of the river of the *Amazons*, near *Cape Orange*, which a few years ſince was ceded by *France* to the dominion of *Portugal*. Within theſe limits are the rivers *Maroni*, *Sinamary*, *Kourou*, *Amunibo*, *Organa*, *Cannanama*, and *Maccouria*.

DUTCH GUIANA was formerly the property of the Crown of *England*, and the *Engliſh* had made ſettlements at *Surinam*, where at this time a ſpecies of corrupt *Engliſh* is univerſally ſpoken by

by the Negroes; but of these settlements, the *Dutch* made themselves masters, in the reign of *Charles the Second*, to retaliate the conquest of *New Holland*; and by a subsequent treaty, in *February*, 1674, they obtained a cession of all the *English* territories in *Guiana*, in exchange for what they had possessed in the province now called *New York*.

The land in *Dutch Guiana*, for the distance of near fifty miles from the sea, is every where flat and level, without a single hill; and so low, that during the rainy seasons, it is usually covered with water near two feet in height. This, however, has produced an effect similar to that of the prolific inundations of the *Nile*, and rendered the soil more fertile than that of any other part of the globe; insomuch, that the soil on the surface

of

of the earth, for twelve inches in depth, is a ſtratum of perfect manure, and as ſuch, has been tranſported to the iſland of *Barbadoes*; but the wood-ants, which are here very numerous, committed ſuch ravages in the veſſel, that a repetition of that project has not been attempted.

But to convey an adequate idea of the ſoil of which I am writing, I need only tell you, that in *Eſſequebo* it has produced thirty crops of rattoon canes, ſucceſſively, without replanting; whereas, in the *Weſt India* iſlands, more than two is never expected. I have inſtanced *Eſſequebo*, not becauſe its ſoil is more fertile than that of this river, or *Berbice*, but becauſe no ſettlements have been made on the lower parts of theſe rivers, until very lately, the *Dutch* having before cultivated the more

more elevated, but leſs valuable lands, farther up theſe rivers, while that adjacent to the ſea, was by them neglected, on account of thoſe ſuperundations, which are the ſource of this redundant fertility; which is even ſomewhat diſadvantageous, and proves, that even the greateſt bleſſings, may be diſpenſed to exceſs; as the inhabitants near the ſea, are under the neceſſity, of recurring to various expedients, for diminiſhing the exceſſive fertility of the ſoil, which they uſually effect, by ſtocking it with plantin trees, for two or three years, and afterwards planting it with canes, which even, after this precaution, are uſually too robuſt, and luxuriant to make ſugar with advantage, and are therefore, during the firſt and ſecond crop, converted into rum, which, until the late Act of the *Britiſh* Parliament, for prohibiting the entry of foreign rum into her *Ameri-*

can

can Colonies, was uſually ſold to *New-England* traders, in payment for their commodities, but has ſince been ſent to the coaſt of *Africa*, for the purchaſe of ſlaves.

The timber, with which the land adjacent to the ſea is covered, is chiefly ſmall and low, conſiſting moſtly of Manicoles, which are a ſmall ſpecies of Palm, and Troelies, which are a leaf near thirty feet in length, ſerving for the thatch of houſes; theſe, however, at the edges of current water, are intermixed with large *Mangroves*, which I ſhall hereafter deſcribe.

The ſoil in the inland elevated part of the country, though fertile, is leſs durable: It is, however, cloathed with lofty ever verdant foreſts, affording the moſt valuable ſpecies of timber, either for

for ſolidity, weight, duration, or ornament. In this part of the country, there are ſeveral ridges of ſandy hills, but no elevations, that can deſerve the name of mountains, between the ſea-coaſt of the *Dutch* part of *Guiana*, and the river of the *Amazons*; a *Dutch* Surgeon, more than twenty years ſince, having obtained from the Governor of *Eſſequebo*, ſeveral *Indians*, to conduct him into the interior part of the country, in queſt of new diſcoveries, with whom he aſcended the river of *Eſſequebo*, three hundred miles from the ſea, near its ſource, and from thence tranſporting his canoe by creeks and rivulets, and when theſe were wanting, by land, he at length fell in with a branch of the river *Blanco*, by which he deſcended into the *Negro*, and from thence to the river of the *Amazons*, without diſcovering any conſiderable mountain, in all this

this courſe. Here the *Indians* left him, and returned, as he thought proper to fix his reſidence among the *Portugueſe*. This is probably the ſame perſon, that Monſieur *de la Condamine* ſaw, in deſcending the river of the *Amazons* in 1743, whom he names *Nicolas Hortſman*, and ſays he mounted the river of *Eſſequebo*, in 1740, in queſt of the *Golden Lake* of *Parima*.

But though the *Dutch* territories are deſtitute of mountains, thoſe of *France* are not, as there is a conſiderable ridge of them, about thirty miles from the ſea, on the continent oppoſite the iſland of *Cayenne*, and a ſtill larger ridge near three hundred miles farther within the country, extending from eaſt to weſt, according to the reports of the *Indians*, for they were never viſited except by the aboriginal Natives.

Beſides

Beſides the large rivers which I have enumerated, there are an innumerable number of large and ſmall creeks, many of which are navigable for veſſels of ſome burthen for many leagues; and but few countries can boaſt of ſuperior advantages in navigation.

Notwithſtanding the proximity of *Guiana* to the Equator, there is no country between the Tropics which enjoys a more regular and uniform, temperature of climate. The conſtant regularity of the trade winds during the day, and of the land breezes, which ſucceed in the evening, joined to the quick return, and invariable length of the nights, with their refreſhing dews, render the heat ſo far from being exceſſive, that it is ſeldom diſagreeable, eſpecially to the white inhabitants, who,

who, except a very few, are unexpoſed to the rays of the ſun near mid-day. And ſurprizing as it may appear, I can nevertheleſs aſſure you, that the heat is here leſs than in the iſland of *Barbadoes*, which is eſteemed the moſt temperate and ſalubrious of all the tropical iſlands. Here we are not ſubject to thoſe particular ſeaſons for crops and harveſt, to which the inhabitants of all the *Weſt-India* iſlands are confined; every part of the year being proper both for planting and gathering, and in every part of the year bloſſoms, together with ripe and unripe fruit, appear on the ſame trees. Revolving years afford nothing but a perpetual uninterrupted ſummer.

" Stern winter ſmiles on that auſpicious clime,
" The fields are florid with unfading prime;
" From the bleak Pole no winds inclement blow,
" Mould the round hail, or flake the fleecy ſnow."

POPE.

The only diviſion of ſeaſons in *Guiana* is into rainy and dry; of each of theſe there are annually two, of about three months duration each. The rainy ſeaſons depend on the approaches of the Sun, towards the Tropics of *Cancer* and *Capricorn*. In the month of *May*, when that luminary arrives within ten or twelve degrees from the Tropic of *Cancer*, the ſhowers begin, and gradually increaſe, both in frequency and the term of their duration, until the month of *June*, when the rains become inceſſant, accompanied with violent and frequent thunder, and thus continue until the beginning of *July*, when they gradually decreaſe with the Sun's retrograde motion towards the Equator, and by the beginning of *Auguſt* intirely ceaſe. The ſame gradation is obſerved as the Sun approaches the Tropic of *Capricorn*; but as we, in this part of *Guiana*, are

ſituated

ſituated at a greater diſtance from that, than from the Tropic of *Cancer*, ſo the rains at that ſeaſon are here leſs violent, and of ſhorter duration; beſides, they are unaccompanied with thunder, which, from whatever cauſe it may happen, is never heard here during thoſe months which conſtitute winter in *Europe*.

The term of each dry ſeaſon is during ſix or ſeven weeks before, and as many after, the vernal and autumnal equinoxes. During the continuance of theſe ſeaſons, there is ſeldom a drop of rain; the air is clear and ſerene, and plentiful dews ſupply the abſence of rain. Theſe ſeaſons, however, are much more unhealthy than the rainy, becauſe the water, which inundates all the uncultivated land adjacent to the ſea coaſt, during the wet ſeaſon, and which then preſerves an inceſſant fluctuation,

ſtagnates and corrupts during thoſe months in which the rains intermit, by which the atmoſphere becomes replete with noxious particles, frequently generating putrid fevers. But of theſe, and the other diſeaſes of the country, I ſhall be more particular hereafter.

Having premiſed this general account of the ſituation, extent, diviſion, ſoil, and climate of *Guiana*, I ſhall next proceed to acquaint you with its vegetable and animal productions, in a ſimple, but, I hope, intelligible language, avoiding all embelliſhments of ſtile, which, in ſubjects of this nature, are incompatible with perſpicuity; nor can I ever purſue the following advice of *Seneca* to *Lucilius*, with more propriety than on the preſent occaſion:

" Nimis

" Nimis anxium te eſſe circa verba
" et compoſitionem, mi Lucili, nolo:
" Habeo majoraque curas, quere quid
" ſcribas non quem admodum ——
" Cujuſcunque orationem videris ſolli-
" citam et politam ſcito animum quo-
" que non minus puſilius occupatum."
Epiſt. 115.

Concerning Foſſils and Minerals, I ſhall only obſerve, that above the Cataracts of the river *Demerary*, there are abundance of red and white Agates, which remain untouched by the Natives, who avoid them from a principle of ſuperſtitious veneration, as they are dedicated to the ſervice of their magical invocations. There are likewiſe a variety of ſtones, which appear to contain valuable ores, and there are undoubtedly mines of gold and ſilver, ſince the *Spaniards* have diſcovered

ſeveral in the interior part of the country, adjacent to the river *Oronoque*. It is here, that the imaginary lake of *Parima*, whoſe ſands were of gold, and the fabulous golden city of *Manoa del Dorado*, whoſe walls were covered with that idolized metal, were ſituated; and until very lately, the nations of *Europe* have entertained extravagant ideas of the treaſure of *Guiana*; nor is it probable, that they were altogether chimerical. But the genius and policy of the *Dutch*, are wholly commercial. They are ſenſible the wealth of *America*, has impoveriſhed and depopulated the once powerful Monarchy of *Spain*; and have, therefore, wiſely prohibited the working of mines within their territories in *Guiana*.

In ranging the Vegetable Syſtem of *Guiana*, I ſhall firſt conſider thoſe productions

tions which more immediately require the aid of cultivation; in deſcribing ſeveral of this claſs, I ſhall be able to derive ſome aſſiſtance from Mr. *Hughes's Natural Hiſtory of Barbadoes*; though an adherence to truth, and my own obſervations, will, in ſeveral particulars, oblige me to diſſent from him; probably, becauſe the difference of ſoil and climate has occaſioned a real difference in ſome of the productions of *Barbadoes* and *Demerary*, though of the ſame ſpecies. I have premiſed this, to avoid the trouble of unneceſſary quotations; and, becauſe as *Pliny* juſtly ſays, "Eſt benignum et plenum ingenui pudoris fateri "per quos proficeris." *Præfat.*

From thoſe productions which are more immediately aſſiſted by cultivation, I ſhall deſcend into the ſurrounding foreſts, where Nature ſports in pri-

mæval rudeneſs; and, from the immenſe variety, which ſhe has there ſpontaneouſly produced in the vegetable kingdom, I ſhall ſelect ſuch, as from the uncommon properties they have manifeſted, are more particularly worthy of publick attention; and, in the remainder of this, and my ſucceeding Letters, ſhall ſtudy, if poſſible, to avoid prolixity. "Non multis opus eſt "ſed efficacibus, facilius intrant ſed et "hærent." *Seneca, Epiſt.* 38.

The Cocao Tree, to which I have a particular attachment, I ſhall firſt deſcribe. Its trunk is about ſix inches in diameter, and covered with a greeniſh white coloured bark; it is intirely deſtitute of branches, until it arrives eight or nine feet in height; when it reaches to twelve or fourteen feet, it is uſually topped, to prevent its farther growth.

growth. Its leaves are about nine inches in length, and three in breadth, pennated, of a light green colour on the upper ſide, and of a deep green on the lower, where they are ribbed; theſe are diſpoſed in alternate order. From the trunk chiefly, and the lower branches near the trunk, ariſe the flower, conſiſting of ſix petals of a pale fleſh colour, variegated with reddiſh ſpots: to theſe ſucceed the pods, channelled into longitudinal grooves, and in ſize and ſhape nearly reſembling a melon, but pointed at the end; theſe, when nearly ripe, change to a yellow colour. The pods are divided into ſeveral longitudinal cavities, in which the nuts, of an oblong roundiſh form, and about the ſize of an olive, are diſpoſed in rows. Theſe trees are uſually planted in lines, at twelve, or fourteen feet diſtance, which form very agree-

able

able ſhady walks, nor can any thing ſurpaſs the uniform beauty of a regular Cocoa Plantation. Theſe trees grow wild, to a great height, in the interior parts of *Guiana*, adjacent to the rivers *Oronoque* and *Amazons*.

The Coffee Tree is ſeldom ſuffered to exceed ſix feet in height. The main ſtem, or trunk, is covered with a brownish grey coloured bark, and puts forth numerous branches cloſe to the earth, which diverge on every ſide in a horizontal direction. Theſe branches are about eighteen inches in length near the earth, from whence they gradually become ſhorter, as they approach to the top. The branches are covered with numerous beautiful green leaves, about three inches in length, and one and an half in breadth, being ſharp pointed, and elegantly ſinuated at the edges.

edges. The trunk and its branches, thus cloathed in their leaves, by which they are intirely obſcured, appear in the form of a regular green cone, ſix feet in height, and near the earth about nine in circumference. Numerous flowers, of a beautiful white colour, adhere both to the trunk and its branches. They conſiſt of five round pointed petals, which ſurround ſeveral ſhort ſtaminæ, ſupporting numerous apices; from within theſe ariſes the piſtil, which contains the embryo of the ſucceeding berry. This conſiſts of two kernels, which, by the junction of their flat ſides, form a round oval berry. Theſe kernels are incloſed in a huſk, which changes from a green to a bright crimſon colour, when the kernels are arrived to maturity. Of theſe there are annually two crops, and in this Colony, each of theſe crops, from a good

good tree, is computed at a pound and an half. The trees are planted in ſtraight lines, at five feet diſtance from each other; and a well ordered Coffee Plantation may be juſtly ſaid to form a very agreeable proſpect.

The Cotton Trees are of ſeveral ſpecies, but have all a near reſemblance to each other. They conſiſt of ſeveral ſmall ſhrubs ariſing from one common root, and growing to about eight feet in height. The leaves of each ſpecies, though they differ in ſize, are indented. The flowers conſiſt of five large yellow petals. Their piſtils are covered on the top with farina fœcundans, of a yellow colour, which when mature falls into, and impregnates the ſubjacent matrix. When the petals fall off, a capſular pod ariſes, ſurrounded by three triangular leaves. The pod is ſomewhat conic, and

and divided into ſeveral bells, each containing a lock of cotton, intermixed with ſmall blackiſh ſeeds. Theſe trees bear after nine months growth, and produce two crops annually, each crop amounting to near a pound. The crops of cotton, however, in this country, are ſomewhat precarious, and are frequently damaged by the early commencement and long duration of the rainy ſeaſons.

The Sugar Cane has been ſo often deſcribed, that I ſhall paſs it over in ſilence.

The Plantin Tree is natural to *America* as well as *Ethiopia*, having been immemorially cultivated by the *Indians* on every part of the Continent between the Tropics. The trunk ariſes from ſeveral white bulbous roots, and is about eight

eight inches in diameter, tapering up to its height, which is about twelve feet from the earth. Its internal herbaceous ſtamen is enwrapped by about fifteen green, porous, vaſcular huſks, near three lines in thickneſs. Theſe, when they arrive at the top, (which ſeveral of them do not) diverge alternately, and form tapering footſtalks; and each of theſe becomes the middle rib to the ſucceeding leaf, which is ſmooth, and of a ſea-green colour, near five feet in length, two in breadth, and of a long oval ſhape. Its fibres run in a lateral direction, to the rib, and are eaſily ſeparated. This rib, on the under ſide, is protuberant and convex; on the upper it is concave, and its concavity conveys the rain from the leaves to the trunk, for its nouriſhment. Theſe leaves are uſually about ten in number. Eight months after the tree has been growing,

growing, there ariſes from its ſummit a tough ligneous cylindrical ſtalk, about four inches in circumference, and near three feet in length, bending ſomewhat downwards, and terminated by a conic, reddiſh purple ſpatha, which adheres until the tree is cut down. This ſtalk is ſurrounded by numerous, monopetalous hermaphrodite flowers, diſpoſed in annular circles, at about three inches diſtance from each other. From theſe ariſe ſmall ſtyles, terminated by a head, or corona, which afterwards become the Plantins. Theſe Plantins are white farinaceous fruit, about eight inches in length, and three and an half in circumference, bending ſomewhat ſemicircularly, and incloſed in a ſmooth, angular, huſky tegument, which changes, when the fruit is ripe, from a deep green to a yellow colour. The Plantins, when full grown, but unripe, ſup-

ply

ply the place of bread, being either roaſted or boiled. When ripe, they are a ſoft, ſweet, yellow pulp, and are eaten by way of deſert, either raw, fryed, or roaſted in the huſk. About fifty of theſe grow in cluſters on one ſtem, and form what is called a bunch. To gather the bunch, of which only one is produced on a tree, the tree is firſt cut down; but its place is inceſſantly ſupplied by the young ſhoots, of which two or three are always ready at its root. There is another ſpecies of larger Plantins growing on a ſimilar tree, but they are leſs delicate.

The Banana Tree differs but little from the Plantin. The fruit, however, is oval, being about four inches in length, and near five in circumference. It is never eat until fully ripe, when it is fragrant, agreeably ſweet, and delicate.

The

The Cocoa Nut Tree is a ſpecies of Palm, and has been deſcribed as producing not only food and raiment, but almoſt all the neceſſaries of life. The trunk ariſes from a large cluſter of ſmall fibrous roots, and grows about fifty feet in height, undivided by branches until very near its top. Its poſition is ſeldom erect, and its magnitude often leſs at the middle than at either end. Its bark, from the ground to the height where the branches commence, is of an aſh colour, and from thence it becomes green. The branches are between twenty and thirty in number, and about fifteen feet in length. Their footſtalks, as they ariſe from the trunk, are incloſed in a ſtrong reticular web-like plexus, which is the cloathing this tree has been ſaid to afford. On two oppoſite ſides of the branches are diſ-

poſed numerous narrow pennated leaves, about eighteen inches long near the trunk, from whence they gradually diminiſh in length. The external ſubſtance of the tree is ſtrong, hard, and ligneous; its internal, like that of all the Palm kind, is pithy. The trees uſually produce nuts in about ſix years, from the time of planting: ſeveral of theſe adhere to one ſtalk, which ariſes from the trunk near the place where the branches diverge. The colour of its flowers is of a yellowiſh white. The nut is too generally known to need a deſcription.

The Ricinus Americanus major, or Phyſick Nut Tree, is a nuciferous, ſlender, knotty ſhrub, about twelve or fourteen feet in height; its leaves, which ariſe at the extremities of the branches, are round, and ſlightly indented. The kernel

kernel of the nut, which reſembles an almond, and has an agreeable taſte, is incloſed in a green huſky tegument. This kernel is ſeparated in the middle by two thin white membranous follicles, or leaves, which are generally ſaid to contain the purgative and emetic quality of the nut; though this is by ſome denied; however, I believe it from my own experience, having frequently eaten the nut when diveſted of theſe leaves, without any ſenſible effect.

The Ricinus, Palma Chriſti, or Caſtor Buſh, is divided into two kinds, red or white. The former is diſtinguiſhed by a reddiſh, and the other by a greeniſh ſtalk, which is about five feet in height, and jointed. Both the ſtalk and branches are covered with numerous leaves, near twenty inches in circumference, and forming eight or ten ſharp

pointed diviſions. The leaves are ſupported by foot-ſtalks near a foot in length. The flowers ſurround the ſummit of the main ſtem, and conſiſt of ſmall yellowiſh ſtamina, tipped with apices. The huſk, which incloſes the berry, is at firſt green, but, as it ripens, changes to a brown colour, and falls off. The nut is of a triangular form, compoſed of three parts, and ſlightly covered with a browniſh fur. Theſe are replete with an oil, which, when obtained by expreſſion, can ſcarcely be diſtinguiſhed from that of the olive. It is gently purgative, and is now eſteemed a ſpecific for the *Colica Pictonum*, or *Weſt India* Dry Gripes.

The Manchineel Tree is ſupported by a trunk about two feet diameter, which ſoon divides into many branches, like an Apple Tree. Theſe are covered with

with ſmall round leaves. The wood is beautiful, ſolid, and permanent. The fruit in figure and fragrance reſembles the *Engliſh* Crab Apple. Within its pulp is a hard, ſulcated, uneven kernel, containing the ſeeds of the apple. The milky juice contained in the bark of the tree, upon touching the ſkin immediately raiſes watery veſſicles; and both that and the pulp of the fruit being taken internally, occaſion inflammations and death. Sea-water, however, with the juice of limes, and of the fig, and Whitewood Tree, are effectual remedies.

The Guava Tree is about twenty feet high, ſoon dividing into ſeveral branches. Its bark is ſmooth and grey. Its leaves are of a deep green, rough, and pointed, being about three inches in length, and one in breadth. The flowers are

white, and pentapetalous. The fruit is globular, and of a deep green colour, until it is ripe, when it changes to a yellowiſh white. The end, oppoſite to the ſtem, has a ſmall corona; within the rind, is a thin apple-like ſubſtance, incloſing a reddiſh pleaſant pulp, intermixed with numerous ſmall hard ſeeds. This fruit is the uſual ſuccedaneum to Apples; and its external ſubſtance is uſed for tarts, marmalades, &c. The inner pulp affords an excellent jelly. The whole of the fruit is aſtringent. There is another ſpecies, formed like a Pear, but they are leſs common.

The Avigato Pear Tree is between thirty and forty feet in height. Its trunk ſeparates into widely diverging branches, covered with large pointed leaves. The flowers ariſe at the extremities of the branches, and are hexapetalous. To

theſe

theſe ſucceed the fruit, which reſembles, when ripe, a large Pear, and is either red, purple, or of a light green colour. The pulp, within the rind, is of a ſoft delicate texture, and has juſtly been ſtiled a vegetable marrow, being the moſt nutritious, ſalubrious, and agreeable, of all the tropical fruits. It is uſually eaten with ſalt and pepper. Within the pulp is contained a ruſſet coloured ſtone, from which the tree is produced.

The Caſſava Shrub is about four feet in height, knotted, and covered with an aſh coloured bark. Within it is pithy. Near the top, it divides into ſeveral ſhort, ſmall, green branches; from theſe ariſe reddiſh footſtalks, about ſix inches in length, ſupporting large digitated leaves. The root is white, ſoft, and farinaceous, of a cylindrical form,

near a foot in length, and five or ſix inches in circumference. This root is grated on large copper graters, into coarſe meal, from which its juice is ſeparated by expreſſion. This meal is then put on large plates of iron, placed over a ſlow fire, and is formed into circular cakes of different magnitude, and from one to four lines in thickneſs; on theſe plates it is baked, until the ſurface becomes brown, and will then keep ſweet, and wholeſome, for many months. But notwithſtanding this is the uſual bread every where on this Coaſt, yet every part of the root from which it is made, is a ſpeedy and fatal poiſon, of the cold kind, cauſing, when internally taken, violent ſpaſms, a tumefaction of the abdomen, and a ſpeedy ceſſation of all the vital functions. The aqueous part is expreſſed, not becauſe it is more poiſonous than the farinaceous ſubſtance, but

but to facilitate the baking. By the inattention of the Slaves, this juice, when expreſſed, is frequently drank by the ſheep, hogs, and poultry, on the Plantations, which ever proves fatal to them: yet the animals thus poiſoned, are always eaten by the inhabitants. Yet this poiſon, fatal as it is in its crude ſtate, is rendered perfectly innocent and wholeſome by fire. Thus the meal, by baking, is rendered innoxious and nutritious; and the poiſonous juice of the root, when expreſſed, is, by the *Indians* and White Inhabitants, boiled with veniſon, pepper, &c. and thus affords an agreeable ſalubrious ſoup. The beſt antidotes that have hitherto been diſcovered againſt the poiſonous effects of the Caſſava, in its crude ſtate, are red pepper and rum, taken immediately. The Sweet Caſſava differs from this only by being innocent, and having

ing a tough ligneous fibre running longitudinally through the root.

The Female Poppau is of the Pruniferous tribe. Its trunk is hollow, and uſually grows to about fifteen feet in height, and ſix or eight inches in diameter; being wholly deſtitute of branches. It is covered with bark of a light brown colour, variegated by the veſtigia of the fallen off ſtamina of the leaves. The leaves on one tree are uſually about fifteen in number, and near four feet in circumference, divided into ſeven or eight ſections, which are again irregularly ſubdivided into others, which terminate in obtuſe points. Theſe leaves are ſupported by as many hollow herbaceous foot-ſtalks, near two feet in length, which ariſe in a cluſter from the ſummit of the trunk, from whence the pedicles to the flowers ariſe.

ariſe. Theſe pedicles are ſhort, and covered with cluſters of pentapetalous flowers, of a yellowiſh white colour, which are fragrant, and uſed for Sweet Meats and Confections. The Poppau fruit, when young and ſmall, make excellent pickles. They are of an oval form, about ſix inches in length when ripe; at which time they change from a green to a yellow colour. Their external ſubſtance reſembles that of a Pumpion; and is boiled and eaten, when the fruit is near ripe; the milky cauſtic juice which it contains being firſt ſuffered to exude. Within the external ſubſtance is a cavity filled with a ſoft pulp, intermixed with numerous ſmall ſeeds.—The Male Poppau differs from the Female in two particulars. It produces no fruit; and the pedicles, to which its flowers adhere, are near three feet in length.

The

The Pigeon, or Angola Pea Tree, is a branching ſhrub, about nine feet in height, covered with ſmooth, long, narrow-pointed leaves. Its flowers are of the papilionaceous kind, and are ſucceeded by numerous pods of a ruſſet colour, ſhaped like thoſe of the *Engliſh* Pea, but more flat. Theſe are divided into four or five cells, containing as many flattiſh peaſe, which are ſomewhat aſtringent, but agreeable and nutritious.

The Arnotta, or Roucou Shrub, is a woody plant, diverging into ſeveral branches, uſually about nine feet in height, covered with long, narrow, pointed, green leaves, diſpoſed on the branches in alternate order. The middle and tranſverſe ribs, to theſe leaves, are of a red colour. The flowers are pentapetalous, and of a blueiſh yellow colour. The petals

petals incloſe ſeveral ſtamina, crowned with apices, of a purple colour: from the middle of theſe ariſes a ſtyle, which contains the embryo of a ſucceeding, echinated, conic pod, which is divided into ſeveral longitudinal cavities, that are filled with ſmall ſeeds, which, when ripe, are covered with a beautiful crimſon pulp. The Roucou is moſtly cultivated by the *Indians*, and its ſeeds macerated in the juice of lemons, in which the gum of the Mauna Tree has been diſſolved, yields the celebrated *Indian* Pigment, or Crimſon Paint, with which the Natives adorn their bodies.

The *French* Guava Tree is a ligneous plant, compoſed of ſeveral branches, about twelve feet in height, with large oval leaves diſpoſed in pairs. From the principal ſtem ariſe ſeveral erect ſpikes, covered near the top with cluſters of yellow

yellow pendulous flowers.—Theſe flowers, when bruiſed, afford a juice which is highly aſtringent and deſiccative, and which Dr. *Hillary* eſteems a ſpecific for the cure of ring-worms, which in this climate are extremely troubleſome.

The *American* Aloes Tree, or May-Pole, is no leſs admirable than beautiful, being uſually planted in gardens and walks. The trunk of this tree is ever green, uſually about nine inches in diameter, and twenty-five feet in height. Its bark conſiſts of elegant triangular laminæ, or follicles, which terminate in a prickly point; theſe gradually diminiſh in ſize, as they approach the top. The internal ſubſtance, both of the trunk and its branches, is a white ſpongy pith. The trunk, near the earth, is ſurrounded by a thicket of leaves ariſing immediately from the

roots.

roots. Theſe leaves are four feet in length, ſeven or eight inches in width near the middle, where they are wider than at or near the root; they are pointed at the end, and are about half an inch thick, covered with a ſmooth tegument of a beautiful green colour; their internal ſubſtance is white, ſpungy, and ſaponaceous. The branches ariſe alternately, about ten feet below the ſummit of the trunk; they are ſhort and numerous, each ſuſtaining a very large compact cluſter of yellow flowers; each of theſe flowers is ſupported by ſhort cylindrical light green pedicles, and conſiſt of ſix pointed petals, ſurrounding an equal number of long ſtamina, with large apices, which are covered with yellow farinæ. From the centre ariſes the piſtil. As the flowers fall off, their pedicles ſhoot into broad pointed leaves, cloſely connected in form

form of a ſucker. Theſe contain the embryo of a future tree; when theſe have arrived to maturity, the trunk of the tree falls to riſe no more, and its ſurrounding leaves wither and decay. This tree, after three months growth, arrives at full magnitude, and puts forth its bloſſoms in perfect bloom.

The Silk Graſs Plant nearly reſembles the *American* Aloes, but the height and diameter of its trunk is leſs. Its flowers are ſingle, conſiſting of ſix oval petals, incloſing as many ſtamina with apices, and ſurrounding a piſtil. Its leaves ariſe in a large cluſter immediately from the root; they are about three feet in length, and reſemble thoſe of the *American* Aloes, but are ſomewhat thicker, and their edges are moderately indented, the ſpaces between each indenture riſing into prickly points. The internal

ſubſtance

ſubſtance of the leaves is a congeries of ſtrong, ſmall, white fibres, or threads, running longitudinally the whole length of the leaf, and mixed with a ſaponaceous pulpy ſubſtance, which is uſed for waſhing by the Negroes. The threads are ſeparated from this ſubſtance by bruiſing, macerating, and beating. The Silk Graſs is chiefly cultivated by the *Indians*, by whom it is termed Curreta.

The Aloe Vulgaris, or Aloes Plant, conſiſts of ſeveral leaves, which diverge from the ſtalk, at the very ſurface of the earth. Theſe leaves are about two feet in length, and five inches in breadth at their middle, from whence they diminiſh, terminating in a point. They are about ſix or ſeven lines in thickneſs, and are covered with a ſtrong ſmooth green teguiment, being laterally de-

fended by ſtrong ſmall prickles, placed the whole length of the leaf, on each ſide, at half an inch diſtance from each other. In the center of the leaves riſes a ſlender conic ſtalk, growing about eighteen inches above the ſummit of the leaves, being ſometimes forked. Near the top it puts forth ſeveral pendulous, monopetalous, yellow flowers, from which are produced numerous ſeeds, which, when ripe, are ſmall, and of a blackiſh colour. Within the external tegument of the leaf, is contained a ſoft ſucculent bitter pulp, from which exudes a thick gelatinous juice, which being indurated, either by the heat of the Sun, or by boiling, makes the Aloes. The Sun-dried Aloes, however, is much the beſt for internal uſe, and ſells for a much greater price.

The Vegetable Muſk Plant is about four feet in height, dividing into ſeveral ſmall branches. Its leaves are large, and divided into three ſections, each of which is indented, and pointed. The flower is of a beautiful yellow colour, conſiſting of five long oval petals, which encircle a large piſtil, ſurrounded at its top with purple apices, covered with yellow farinæ. Theſe are ſucceeded by green conic fleſhy pods, about two inches in length, and one in diameter. Theſe, together with the leaves and branches, are guarded by numerous, fine, hairy ſpicula, or ſeta, which, when the pod is ripe, have ſtrength and elaſticity ſufficient to create a violent and painful itching, if they are touched by the naked hand. The internal cavity of the pod is divided into longitudinal cells, correſponding in number and direction to its external

angles. Theſe cavities are filled with ſmall oval ſeeds of a dark brown colour, and bending ſomewhat in a ſemicircular form. Theſe ſeeds ſtrongly diffuſe the ſmell of Muſk, and are replete with oil, which in this country is eſteemed a ſpecific for the bite of venomous ſnakes, when taken internally, as is alſo a cataplaſm compoſed of the bruiſed ſeeds, and applied to the wound; both of theſe I have ſeen uſed with ſucceſs.

The Ocro Plant nearly reſembles that of the Muſk, except its want of ſmell, and of thoſe pointed ſeta which cover the Muſk Plant. Its pods are boiled when young and tender, and afford an agreeable nutritious food; being of a mucilaginous, ſlimy, and lubricative texture. The female Slaves who intend to procure abortion, have found the advantage of previouſly lubricating the uterine

uterine paſſages, by a diet of theſe pods.

The Siliqua Hirſuta, or Cow Itch, is a long ſlender creeping vine. Its leaves, which are thin, of a middle ſize, and pointed, are diſpoſed in triparture order, and covered with a ſoft down. The flowers adhere in cluſters; each flower is compoſed of two narrow purple leaves, about ſix lines in length. Between theſe, is a long white pointal, acutely pointed; from this ariſes ſeveral ſtamina, crowned with apices. Each flower is ſucceeded by a pod, in ſhape and ſize nearly reſembling that of an *Engliſh* Pea, but more flat, and containing ſeveral ſmall purple beans. The pod is obſcured by a thick brown coat, compoſed of very fine, ſtiff, elaſtic hairs, or ſpicula, ſo acutely pointed, that, upon coming in contact with the

ſkin, they excite an inſupportable itching; but their vermifuge quality, which is unknown in *Europe*, juſtly intitles them to particular attention. Of this I ſhall hereafter give you a very minute account, having been particularly converſant with examples of their uncommon efficacy.

Ginger is a ſpecies of Reed. From its ſtalk, which is about ſixteen inches in height, ariſe, in alternate order, ſeveral long narrow graminous leaves, which riſe in a ſpiral direction, terminating in a ſharp point. The roots are found in the earth, in digitated races, or cluſters. The ſoil of *Guiana*, near the ſea-coaſt, is uncommonly favourable to the production of Ginger, as it alſo is more particularly to Rice, which delights in a ſoil expoſed to frequent inundations of freſh water; and it is here

here found ſufficient, barely to free the land from its trees, and ſcatter the Rice on the unbroken ground, which readily takes root, and grows with the moſt luxuriant fertility, and yielding an amazing increaſe.

The *Indian* Yams are peculiar to this part of the Continent of *America*, being unknown in any of the *Weſt-India* iſlands, and are different from either the *Guinea* Yam, or that which is diſtinguiſhed by a Prickly Vine, both of which are here cultivated to great advantage. The *Indian* Yam is a farinaceous root, of a reddiſh purple colour, near the ſize of a man's wriſt, and ſeven or eight inches in length: It ſomewhat reſembles the Potatoe, but has a taſte peculiar to itſelf, which is very agreeable. They are planted in ſmall hillocks, and produce a long ſlender

vine, with large digitated leaves, and are about ten months in arriving to maturity, from the time they are planted.

I might here proceed to deſcribe the different ſpecies of Shaddocs, Forbidden Fruit, *China*, *Seville*, and Sour Orange trees; as alſo thoſe of the *Liſbon* and *St. Helena* Lemon. The Lime, Citron, Bergamot, Sappadilla, Mammee, Cuſtard Apple, and Caſhew trees; as alſo the Tamarind tree, the *Arabian* Jeſſamy, Water Lemon, and *Granadilla* Vine, together with the Anana, or Pine-Apple, &c. &c. But as theſe are not peculiar to *Guiana*, and have been repeatedly deſcribed already, and as I have nothing new or important to add to theſe deſcriptions, I ſhall paſs them over without farther notice, being impatient to penetrate the vaſt ſurround-

ſurrounding foreſts, which I now ſurvey with equal wonder and admiration, cloathed in perpetual verdure, and adorned with lofty trees, whoſe elevated ſummits are obſcured by the impending clouds: Foreſts, where the liberal hand of indulgent Nature has ranged, in beautiful ruſtic diſorder, an innumerable variety, an immenſe aſſemblage of vegetable productions, feeding and ſheltering an equally innumerable variety of animal beings. And here I cannot but lament the unpardonable indolence and inattention of the civilized inhabitants of this country, few of whom have ever penetrated the woods farther than the confined limits of their plantations; and hence the properties of that vaſt multitude of plants and herbs with which the earth is every where covered, remain almoſt wholly unknown. Many of

theſe

theſe are known to be the moſt lethiferous poiſons, and many of the others ſenſibly diſcover very uncommon properties, and might undoubtedly be converted into the moſt ſalutary medicines.

I have ſpent many days in a dangerous and almoſt fruitleſs endeavour to inveſtigate the nature and qualities of theſe plants; and, by handling, ſmelling, taſting, &c. I have frequently found, at different times, almoſt all the ſeveral ſenſes, and their organs either diſordered or violently affected, without being able to determine to which of the many ſubjects of my examination, I ought to attribute theſe uncommon effects. "Multa venientis "ævi populus ignota nobis ſciet. Mul- "ta ſeculis, tunc, cum memoria noſtri "exolverit, reſervantur." SENECA.

In

In deſcribing the ſpontaneous vegetable productions of *Guiana*, I ſhall obſerve no other order but that of their magnitude, and even from that I ſhall ſometimes deviate, amidſt the rude diſorder of theſe boundleſs and almoſt unexplored foreſts.—And here I muſt previouſly deſire you to expect no account of an immenſe variety of productions, whoſe properties and uſes the indolence of the preſent age has left for the diſcovery of a more inquiſitive poſterity.

The Cabbage Tree is firſt to be conſidered in the order of magnitude, which I have propoſed to follow. Its trunk, which ariſes from innumerable ſmall long roots, is about ſeven feet in circumference, and uſually one hundred and twenty feet in height; being ſtreight, erect, and regularly tapering from

from the root to the ſummit, and entirely deſtitute of branches, until it is near one hundred feet from the earth, at which place the bark changes from a light grey to a deep green colour. Near the top ariſe numerous green branches, about twenty feet in length, diverging on all ſides, and extending in an horizontal direction. To theſe, on two oppoſite ſides, are compactly diſpoſed numerous pennated leaves, about two feet and an half in length, and between two and three inches in width, and terminating in a point. Theſe leaves diminiſh in length the nearer they are diſpoſed to the ends of the branches. The flower, if it may be ſo called, ariſes in that part of the trunk where the aſh-coloured bark joins the green, and at its firſt appearance is a green huſky ſpatha, twenty inches in length, and four in breadth; its in-

ſide

ſide being full of alternate protuberating knobs, incloſed in ſmall ſtringy filaments: From theſe are produced a great number of ſmall oval nuts, in ſize reſembling unhuſked coffee-berries. Theſe nuts contain each the rudiments of a future tree. At the very ſummit of the trunk is found the cabbage, incloſed in a green huſky tegument, which being exfoliated, the cabbage appears in long, thin, white, tender flakes, or ſtrata, reſembling the kernel of an almond in taſte. The trunk of the tree is of a ſtrong ligneous ſubſtance, but, like all of the Palm ſpecies, to which it belongs, has an internal longitudinal cavity, containing a pithy ſubſtance.

The Eta Tree is of the ſame ſpecies with the foregoing, but ſmaller. It produces cabbage like that; but its nuts,

nuts, which grow in very large cluſters, are globular, in magnitude equal to a large grape ſhot. They are covered with a yellow pulpy ſubſtance, about two lines in thickneſs, which is extremely delicate and pleaſant; within this pulp is a hard ſhell, containing a kernel, which is the embryo of a future tree.

The Cokarito Tree reſembles the former, but is very ſhort, ſeldom more than thirty feet in height. It produces the moſt delicate and agreeable cabbage of any of the Palm kind. Its nuts, though ſomewhat like the former, are leſs agreeable. The external ſubſtance of its trunk, on account of its exceſſive hardneſs, is formed into pointed ſplinters, which being invenomed by the poiſon of Woorara, are uſed for the points of their ſmall poiſon arrows; which

which are forced by the lungs through hollow reeds, a conſiderable diſtance.

The Manicole is the ſmalleſt of all the Palm kind; though it often grows ſtraight, erect, and gently tapering, to the height of forty or fifty feet, yet its diameter ſeldom exceeds eight or nine inches. It is covered with a light brown bark, cloſely adhering to the wood; this, however, about three feet below the top, changes to a green colour, and forms a huſky integument to the cabbage, which is about the ſize of a man's wriſt, and near three feet in length, reſembling that of the Cabbage Tree, as does its leaves and branches, but they are much ſmaller and ſhorter. The trunk has joints, within two or three feet from each other, its whole length. Its external hard ligneous ſubſtance is not above half an inch in thickneſs,

and

and is ſplit into a ſpecies of thin narrow boards, which, in this country, frequently ſerve domeſtic purpoſes. It produces neither flowers nor nuts, but a ſpatha, which ariſes near the top, and divides into twenty or thirty uneven woody chords, or fibres. Theſe are here called Broms, for which they are uſed. The Cabbage Tree is common in many of the *Weſt-India* Iſlands, but the Eta, Cokar-Eta, and Manicole, ſeem peculiar to *Guiana* and *Terra Firma*. The cabbage which they afford, is tender, delicate, and agreeable, and is either boiled, or eaten as a ſallad; but a long continued uſe of it, has here been found to generate flatulencies and diarrhœas; theſe effects, however, may be in a great meaſure prevented, by the copious uſe of red pepper. Almoſt the whole ſurface of the earth on this coaſt, within fifty miles

miles of the ſea, is covered with trees of Manicole, which are univerſally eſteemed a ſure mark of a rich fertile ſoil, wherever they are found.

The Silk Cotton Tree, in the order of height, ſhould have been conſidered immediately after the Cabbage Tree, but I thought it moſt convenient to deſcribe thoſe of the Palm ſpecies, in courſe. It is near one hundred feet in height, and about twelve feet in circumference. The trunk is covered with a light grey bark, ſtudded with ſhort thick prickles. It continues undivided by branches until it is ſeventy or eighty feet from the ground. At the extremities of each branch are ſeven long narrow leaves, orbicularly diſpoſed, with ſuch regularity, that they appear like ſo many ſections of one digitated leaf. Juſt without theſe ariſe ſemicircular roſaceous flowers, conſiſt-

ing of five white follicles, incloſing the pointal within five ſtamina tipped with apices; the whole being incloſed by a green calyx: Theſe are ſucceeded by a pod of a conic form, and about four inches in length. This pod, when ripe, opens and expoſes to the wind its contained cotton, which conſiſts of ſhort, fine, ſilky filaments, intermingled with ſmall blackiſh ſeeds. Theſe crops are triennial. The trunk of this tree, rendered concave by fire, makes the *Indian* canoes, which are frequently ſeventy feet in length, and capable of carrying very great burthens.

The Locuſt Tree is frequently ſeventy feet in height, and nine in diameter, being of the ſiliquoſe tribe. The trunk is covered with light aſh-coloured bark, and continues deſtitute of branches until near the top, when they ariſe pretty numerous, covered with oval leaves,

leaves, about three inches in length, and of a dark green colour; theſe are diſpoſed in pairs, each pair having a ſingle ſtem, and are always unequally divided by the middle rib. The flowers are of the papilionaceous kind, and are ſucceeded by flattiſh pods, about three inches in length and one and an half in breadth, of a light brown colour when ripe, and containing three purple kernels, ſomewhat like *Windſor* beans, but ſmaller: Theſe are covered with a light brown, farinaceous, ſaccharine ſubſtance, which the *Indians* eat with great avidity, and which is indeed ſweet and agreeable. —From between the principal roots of this tree, exudes a clear, tranſparent, reſinous gum, either of a yellow or red colour: this is found collected in the earth among the roots, in large lumps, and when diſſolved in alcohol, or rectified ſpirit of wine, (for it is indiſſoluble by an aqueous menſtruum,) it af-

fords a varniſh ſuperior even to the *Chineſe* Lacque. The wood is of a light brown colour, ſolid, heavy, and durable, ſinking in water, as do almoſt all the woods of this country.

The Green Hart, or Sipeira Tree, in ſize and altitude differs but little from the Locuſt. They are of two ſpecies, black and yellow, which are diſtinguiſhable only by the colours of the bark and wood, which in the former are much darker than in the yellow. This tree continues undivided by branches, until near the top. The leaves are long, narrow, and pointed, and are diſpoſed on the branches in alternate order. The flowers are of a yellowiſh white colour, and tetrapetalous. Theſe are ſucceeded by a farinaceous globular fruit, about an inch in diameter, with which the *Indians* ſometimes make a very indifferent ſpecies of bread, when they have neglected

lected providing themſelves with a ſufficient quantity of plantins, caſſava, &c. The timber of Green Hart, eſpecially the black kind, is very valuable for its weight, ſolidity, and permanence.

The Purple Hart Tree grows to equal height and magnitude with the former. It is covered with ſmooth, dark brown-coloured bark, and its branches ariſe, near the top, with middle-ſized oval leaves, diſpoſed in pairs; the flowers are of a reddiſh colour, conſiſting of five petals, theſe are ſucceeded by ſmall crimſon berries, with ſeeds.—This wood is of a bright crimſon colour, but its outſide, after being ſome time expoſed to the air, changes gradually to a deep purple colour. The timber is extremely heavy and durable, and is eſteemed more valuable than either of the former.

The Bullet Tree uſually grows about fifty feet in height, but is ſeldom more than ſix or ſeven feet in circumference. It is covered with a grey, ſmooth, cloſely adhering bark. The trunk, like the former, is deſtitute of branches, until near the top. Its leaves are long, and narrow towards the foot-ſtalk. The flowers conſiſt of five petals of a reddiſh blue colour, which are ſucceeded by ſmall purple berries. The wood is extremely ſolid, heavy, and durable; its ſpecific gravity being much greater even than ſea-water. It is of a dark brown colour, variegated with numerous ſmall white ſpecks, and is eſteemed the moſt valuable timber for the arms, ſhafts, &c. of windmills, that the Continent any where produces.

Bow Wood, or Waſceba, is in ſize and altitude nearly equal to the former. Its bark is brown, and ſomewhat

ſulcated.

ſulcated. The leaves are of a dark green colour, and of a long oval form. The flowers are white and numerous, and the berries, which ſucceed them, are ſmall, and of a brown colour. The wood, which is of a light brown colour, heavy, durable, and extremely elaſtic, is uſed by the *Indians* for making their bows.

The Iron Wood Tree uſually grows about fifty feet in height, and the trunk is five or ſix feet in circumference, covered with a greyiſh white bark. The leaves are ſmooth, and of a light green colour, about three inches in length, one and an half in breadth, and narroweſt towards the foot-ſtalk. The flowers are white, ſucceeded by ſmall berries with ſeeds; both the coat and internal ſubſtance of theſe berries is of a lively red. The gravity and durability of this wood, has given it the name of

Iron Wood. Of this the *Indians* form large heavy clubs, with ſharp edges, which ſerve them for offenſive weapons, a ſingle blow with them being more than ſufficient to divide the ſkull. The Locuſt, Green Hart, Purple Hart, Bullet Tree, Bow Wood, and Iron Wood, all grow in the internal part of the country, on a dry elevated ſoil. All theſe trees are formed into pieces of timber, adapted for the building of windmills, and tranſported in great quantities, and at a very great expence, to the *Engliſh Weſt-India* Iſlands, where they are ſold to the Planters for not leſs than fifty pounds ſterling each piece, eſpecially the principal ones. This occaſions the *Engliſh* Planters a vaſt expence, which thoſe of this country intirely eſcape, as they alſo do many other diſadvantages to which they are expoſed.

The

The Guaiacum Tree in this country uſually grows to about forty feet in height, and the circumference of its trunk is between three and four feet, dividing into numerous branches, on which the leaves, obtuſely pennated, are diſpoſed in pairs. The flowers are pentapetalous, and of a violet colour. Theſe are ſucceeded by berries of a reddiſh yellow colour, and teſticular form, which are commonly uſed in diet drinks. The uſe of the wood, and the medicinal qualities of its gum, are already univerſally known. There is a white ſpecies of Guaiacum, which is diſtinguiſhed only by its white flower, and alſo a baſtard kind.

The Wild Cinnamon Tree is tall, but ſlender. It produces leaves of the Laurel ſpecies, about four inches in length, and one and an half in breadth, ſmooth, pointed, and of a deep green colour.

colour. The flowers are yellow, and ſucceeded by ſmall red berries. The bark of the tree is rough, moderately ſulcated, near two lines in thickneſs, of a brown colour, and having a fragrant, aromatic, and pungent taſte.

The Mawna Tree grows about fifty feet in height, and its trunk ſoon divides into many branches; it is covered with a thin uneven bark, of a light brown colour. It produces leaves of an oval form, with numerous crimſon pentapetalous flowers, which are ſucceeded by nuts, which, when diveſted of their huſky tegument, exactly reſemble, in form and appearance, the *Oriental* Nutmeg; but they do not afford, either in taſte or ſmell, the leaſt aromatic fragrance. When inciſions are made in the trunk of this tree, there exudes a yellowiſh gum, diſſoluble in an aqueous menſtruum, and which is an ingredient

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in the compoſition of the celebrated *Indian* Pigment.

The Launa Tree grows about fifty feet in height, being compoſed of numerous branches, which are covered with a ſmooth grey bark, having leaves of a dark green colour, and a long oval form, being narroweſt near the foot-ſtalk; theſe are ſomewhat rough on the ſurface, and diſpoſed in pairs. The flowers are white, and of the tetrapetalous kind; theſe are ſucceeded by an oval fruit, in ſize equal to a *Liſbon* lemon, covered with a rough, greyiſh green ſkin. The internal ſubſtance of the fruit reſembles that of an apple, both in colour and conſiſtence; except that it is ſomewhat harder. The juice of this fruit, after being a little time expoſed to the air, changes from a whitiſh to a beautiful deep bluiſh purple colour, and the internal ſubſtance of

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the fruit being bruiſed and macerated in water, affords the paint ſo delightful to the *Indians*, and which in colour nearly reſembles Indigo. With this they ornament their bodies, by drawing a variety of figures, agreeable to the ſuggeſtions of a wanton ruſtic fancy. Theſe figures, when thus drawn on the ſkin, are perfectly indelible for the term of nine or ten days, by any art hitherto diſcovered. When that time is elapſed, they uſually begin to diſappear, and are ſoon after inviſible. From this fruit, a beautiful ink is likewiſe made, which, however, in a ſhort time, becomes inviſible, and is therefore capable of ſerving many fraudulent purpoſes; for which reaſon, its uſe is prohibited, under the ſevereſt penalties.

The Red Mangrove Tree is common to almoſt every part of the continent between the tropics, but has been hitherto

therto very imperfectly deſcribed, as the manner of its vegetation is uncommon, admirable, and peculiar to itſelf. It ariſes from ſeveral ſtrong ligneous roots, which immerge above the ſurface of the earth two or three yards, before they unite at the trunk, which is large, tall, and divides into numerous branches. From the trunk ſeveral tough ligneous ſhoots, about three inches in circumference, germinate, and, deſcending, take root in the earth. As the tree increaſes in height and magnitude, theſe ſhoots become more numerous, and are ſeen in great numbers, deſcending not only from the trunk, but from its moſt elevated branches, like ſo many ropes, jointed at every few feet diſtance, without either leaf or branch, each terminating in a depending pointed head, which enters the earth and takes root. Theſe ſhoots, after entering the earth, increaſe in ſize, ſtrength, and ſolidity,

and

and become ſo many props to ſupport the tree againſt the force of the current tide, and to compenſate for the looſeneſs of ſoil in which they grow, and altogether form an almoſt impenetrable thicket. The branches are covered with green oval leaves. The flower is a ſmall huſky conic calyx, conſiſting of four browniſh petals, which ſurround the piſtil, to this ſucceeds a flattiſh brown pod, containing ſeveral kernels reſembling beans. The external cuticle of the bark is of a light grey, but its internal ſubſtance is red, and highly aſtringent, and is uſed by the *Spaniards* for tanning leather. The wood is heavy, ſolid, and durable. I ought to have premiſed, that this tree grows only in a low wet ſoil, by the ſide of current water. There is a ſpecies of White Upland Mangrove, which grows at a diſtance from water, and which, as Nature never does any thing in vain,

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is deſtitute of thoſe ſhoots which ſupport the Red Mangrove.

The Caſſia Fiſtula Tree uſually grows between forty and fifty feet in height, covered with bark of a light brown colour, ſomewhat ſulcated, and uneven. The branches, which are numerous, ariſe near the top. The leaves are few in number, of a middle ſize, narrow, and pointed. Near the extremities of the branches ariſe cluſters of numerous yellow pentapetalous flowers, which are ſucceeded by depending cylindrical pods, of a dark brown colour, and uſually about eighteen inches in length, and between two and three in circumference. The ſhell of this pod is joined on two oppoſite ſides, from end to end, by longitudinal junctures, one of which is ſomewhat protuberant. The cavity of the pod is ſeparated into ſmall cells, and each of the partitions, which form theſe cells,

cells, are covered with a ſweet, blackiſh, laxative pulp; between theſe are depoſited the ſeeds, which are ſmooth and flat. This tree is natural to *Guiana*, where it ſpontaneouſly grows in abundance, notwithſtanding what has been aſſerted to the contrary.

The Tetermer Tree grows to near fifty feet in height, and its trunk is often eight or nine feet in circumference, cloathed in a light coloured ſomewhat uneven bark. The leaves are of a light green, ſmooth, about four inches in length, and two in breadth, being narroweſt at the footſtalk. The wood very much reſembles mahogany, but is ſomewhat inferior to it in weight, hardneſs, colour, and the texture of its grain. It is, however, ſuſceptible of a very good poliſh, and makes good furniture. Theſe trees grow in great plenty, and afford boards for the ciel-

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ing of houſes, and almoſt all domeſtic uſes.

The Caraba, or Crab Tree, grows about forty feet in height, and conſiſts of numerous branches, covered with long narrow leaves, of a dark green colour. It yields numerous white bloſſoms, which are ſucceeded by nuts about the ſize of a large cheſnut, being of a flattiſh angular form; within a thin, brown, huſky ſhell is contained a white oleaginous kernel. From theſe kernels the *Indians* extract, by bruiſing, macerating, and boiling, a yellowiſh, bitter, butyraceous oil, with which they conſtantly greaſe and rub their naked ſkins, for ſeveral uſeful purpoſes. As this unction, by its exceſſive bitterneſs, defends them from muſquitos, which, as they are naked, would otherwiſe be very troubleſome, it likewiſe ſoftens their ſkins, indurated by being continually

expoſed to the rays of the ſun, and by obſtructing the pores, prevents exceſſive perſpiration, and preſerves them from taking cold by the dews, rain, &c.

The Savory Tree conſiſts of many branches, growing about forty feet in height, and is covered with a dark brown coloured bark. The leaves are of a light green colour, of an oval form, and large, being near five inches in length. The flowers are of a yellowiſh white colour, conſiſting of five petals; theſe ariſe at the extremities of the branches, and are ſucceeded by a large globular depending fruit, about fifteen inches in circumference. This fruit conſiſts of a white, thick, ſpongy, external tegument, incloſing two or more flat circular nuts, whoſe ſhells are of a reddiſh brown colour, and ſulcated like peach-ſtones, but are much larger; within each

each of these shells is contained a kernel of a white, delicate, tender substance, and of a more agreeable taste than any other nut hitherto discovered.

The Ducollabolla Tree grows about forty feet in height, covered with rough bark, of a reddish brown colour. The trunk of the tree seldom exceeds twenty inches in diameter. The branches arise near the top, and are covered with small oval leaves. The flowers are but few, and of a blueish colour; these are succeeded by small purple berries. The wood, which alone renders the tree worthy of attention, is somewhat like mahogany, but of superior quality, being of a deeper red colour, of a finer and more equal and compact grain, of greater hardness and weight, and capable of receiving a more elegant polish.

The Simaruba Tree is peculiar to *Guiana.* It grows uſually at a conſiderable diſtance from the ſea, near the ſides of rivers. When at full growth, it is about forty feet in height, branching, and ſomewhat crooked. It is covered with ſmooth bark, of a light brown colour. The leaves are large, of a long oval form, and diſpoſed on the branches in alternate order. I have never ſeen it with either flowers or fruit. The Simaruba is either the bark of the roots, or branches. But the former is the beſt, and moſt efficacious, in dyſenteries, for which it is eſteemed a ſpecific cure. It is of a yellowiſh white colour, and bitteriſh taſte, being ſtomachic, ſomewhat aſtringent, balſamic, and diuretic.

The Wallabah Tree uſually grows about forty feet in height, and two in diameter. It is covered with bark of a reddiſh

reddiſh brown colour, ſlightly ſulcated. The leaves are large, of a deep green, and narrow at each end. The wood has a thin white ſap, but within it is of a deep red colour, beautifully variegated with whitiſh ſtreaks and ſpots. It is hard, heavy, and ſhining, and would make elegant furniture, was it not ſo eaſily ſplit; but, this quality renders it ſuitable for ſtaves for ſugar hogſheads, for which alone it is uſed. The bark, which is ſomewhat bitter, is a very good emetic, and the only one which the *Indians* ever uſe in this part of *Guiana*. They uſually boil two or three drams in a quart of water, of which they drink a few ſpoonfuls, which immediately excite the ſtomach to vomiting; theſe draughts are repeated, until the neceſſary evacuation is obtained.

The *American* Nutmeg Tree is found only in the far inland parts of the coun-

try. I am informed, it grows to a conſiderable height and ſize, but as I have never ſeen it, can give no particular deſcription thereof. The fruit, when brought to us by the diſtant Natives, is divided into four quarters, and ſtrung on ſtrings, for the conveniency of drying: by the ſize of theſe quarters, I conjecture the fruit to be in bigneſs equal to an ordinary apple. The texture of its ſubſtance is ſimilar to that of the *Oriental* Nutmeg; but it is of a darker brown colour. Its taſte is warm and ſpicy, and it is univerſally uſed by the *Indians* as a remedy for diarrhœas, being moderately aſtringent. Its efficacy, in this diſorder, to which the *Indians*, from the nature of their food, are particularly expoſed, has encouraged many of the *Dutch* inhabitants to imitate this *Indian* practice.

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The *American* Gum Anime, is the product of a tree, in height about forty feet, having but few branches, and thoſe near the top. The leaves are ſmall, of a deep green colour, and an oval form. The external cuticle of the bark is of a dark brown, and its internal ſubſtance of a reddiſh brown colour. From inciſions made in this bark, the Anime exudes, which is a yellowiſh white reſinous gum, having a ſweet grateful ſmell, ſomewhat reſembling that of ſtorax, and a warm pleaſant taſte. The *Indians* chew it for pains in the ſtomach, and flatulencies, and often uſe it by way of ſuffumigation, for rheums, head-achs, &c.

The Balſam, called by the *Indians* Arrecocerra, is the product of a tree growing about thirty feet in height; but which I have never ſeen, as it is found only in the inland country. It is

brought to us by the *Indians*, in calabaſhes, containing about twelve ounces each. It is of a beautiful yellow colour, of a very tenacious texture, and in conſiſtence ſomewhat ſofter than Balſam *Tolu*, but like that growing harder by age. It affords a moſt fragrant ſmell, nearly reſembling that of Balm of *Gilead*, and when held in the mouth, imparts a pleaſant bitteriſh taſte. It is liquifiable by heat, but is indiſſoluble, except a very ſmall portion, either by alcohol or water, neither of theſe being diſcoloured by it, though after long digeſtion they acquire a bitter taſte. This is the grand *Indian* vulnerary, for wounds, &c. which it ſpeedily digeſts incarns, &c.

The Balſam Capivi, or Capoiba Tree, likewiſe grows in great plenty in the interior parts of *Guiana*, from whence the Balſam is brought by the far inland Natives,

Natives, in large gourds, containing ſeveral pounds; but this is too well known to need a deſcription.

I might now proceed to enumerate an almoſt infinite number of Balſams, Gums, and Reſins, which exude from inciſions in almoſt every tree, and ſhrub: but as the properties of theſe exotic productions are hitherto unknown, I ſhall leave them in obſcurity, until chance, or future induſtry, ſhall have diſcovered in them qualities which may intitle them to a more particular attention. I cannot, however, omit the Camphor Tree, among the productions of *Guiana*, which Mr. *Sanders*, an ingenious Surgeon in this Colony, of whoſe veracity I have no doubt, has juſt informed me, of his having lately diſcovered, by accident, on the *Friendſhip Plantation*, where he obſerved a tree of the laurel ſpecies, from whoſe bark (which had been previouſly

viouſly wounded by accident) had exuded a ſmall quantity of real gum Camphor, adhering to the wounded part, and which is doubtleſs the ſame with that produced in the Iſland of *Borneo*. It is by ſuch unexpected incidents, that all our *American* diſcoveries have obtruded themſelves upon our indolent obſervers; yet, the many very efficacious medicines which chance, rather than ſagacity, has thus diſcovered in the wilds of *America*, and which probably make but an inconſiderable part of thoſe which ſtill continue unknown, ought to incite mankind to more minute and extenſive enquiries in theſe unexplored foreſts, which, by their immenſity and fertility, promiſe an ample field for ſucceſsful employment, to all who have fortitude and benevolence ſufficient to proſecute an attempt for alleviating the common miſeries of our ſpecies; an attempt, which having for its object the

health

health and happineſs of mankind, would abundantly merit publick patronage and encouragement, which will ever be neceſſary for the due execution of theſe deſigns, while the human ſpecies are actuated by thoſe paſſions and principles, which in every age, and in every clime, have been found the inſeparable attendants on humanity.

The Canella Alba, or Winter's Bark, as it is improperly called, is the product of a tree growing plentifully in the interior parts of this country. It is brought and ſold to the white inhabitants, by the *Indians* reſiding far up the rivers of *Eſſequebo* and *Demerary*. It is a white bark, thicker than cinnamon, and rolled in oblong tubes. It has an acrid, pungent, aromatic taſte; but its medicinal qualities are already ſufficiently known.

Bourra-

Bourracourra, as it is called by the *Indians*, by the *French*, *Bois du Lettre*, and by the *Dutch*, *Letter Hout*, is the heart of a tree growing about thirty feet in height, and conſiſting of many branches: it is covered with a reddiſh brown bark. The trunk is of different ſizes, but ſeldom exceeds ſixteen or eighteen inches in diameter. Its leaves, which are of a middle ſize, are narrow and pointed. The flowers are pentapetalous, and of a purple colour: to theſe ſucceed ſmall red berries. After hewing off the white ſap, which is very thick, the heart of the tree is diſcovered, which is very ſmall, ſeldom exceeding twelve inches in circumference, in a tree whoſe diameter is ſixteen inches. Hence, great labour is required to obtain a very ſmall piece of this wood, which, with its unequalled beauty, and the ſcarcity of the trees, has rendered it of great value even in this country, where

timber

timber is generally of little conſideration. This wood is of great weight, hardneſs, and ſolidity, having a fine even grain, of a beautiful deep reddiſh colour, variegated, in every part of its whole ſubſtance, with black ſpots and figures, which have been tortured into a fancied reſemblance of letters, from whence the *European* nations have diſtinguiſhed it by the name of Letter Wood. It is ſuſceptible of a moſt elegant poliſh, which reflects a luſtre almoſt equal to a mirror, or at leaſt ſuperior to any other ligneous ſubſtance hitherto diſcovered; but the ſmallneſs of its ſize ſeldom admits of its being uſed, except for walking-ſticks, and ſome very ſmall pieces of furniture. The *Indians*, indeed, form it into bows, which they keep rather for their beauty than uſe. There is likewiſe adjacent to theſe rivers, a great plenty of ebony, fuſtic, and *Spaniſh* cedars, together with many other ſpecies of

of valuable timber, diſtinguiſhed only by *Indian* names, as Urobolla, Cerrebobolla, Copperbolla, Hatchebolla, &c. &c. but a deſcription of them would be tedious, unentertaining, and perhaps of little uſe.

The Ducolla Apple Tree uſually grows about thirty feet in height, and conſiſts of numerous branches: It is covered with bark of a greyiſh brown colour. Its leaves are ſmall, of a long oval form, and ſomewhat reſembling thoſe of an *European* Apple Tree. The bloſſoms are of a yellowiſh white colour: To theſe ſucceed the apple, which has a green echinated tegument, within which is contained a ſoft pulp of a reddiſh brown colour, intermixed with many very ſmall ſeeds. This pulp has a moſt delicious taſte, ſomewhat reſembling that of a marmalade of quinces.—There are in this country a great variety of agreeable

agreeable and ſalubrious fruits, ſpontaneouſly growing in the uncultivated woods, and which compoſe a conſiderable part of the food of its aboriginal inhabitants; but the limits I have propoſed to myſelf, will not permit me to enter into a particular deſcription of them.—From the interior parts of the country is brought by the *Indians* a very agreeable Perfume, which is contained in the buds of a ſmall tree. Theſe buds are of a conic form, about ſix lines in length, and of a reddiſh brown colour, affording a very agreeable fragrance, and are here uſually carried in ſnuff-boxes, for the ſake of perfuming the ſnuff, and are hence called, by the white inhabitants, the Snuff Perfume.

The Samec Tree is between twenty and thirty feet in height, cloathed in a bark of an aſh colour, with leaves of a narrow pointed form. The internal

ſub-

ſubſtance of the bark conſiſts of long, fine, ſtrong filaments, reſembling thoſe of hemp, from which the *Indians* compoſe their cordage and ordinary hammocks.

The Hearree Tree uſually grows near the ſides of rivers, at ſome diſtance from the ſea, and ſingly by itſelf, being here ſaid to deſtroy all vegetables contiguous to it, by its poiſonous qualities. It uſually grows between twenty and twenty-five feet in height. It has a grey uneven bark, covered with a whitiſh moſs. The branches are but few, and ariſe near the top, with rough uneven leaves, of a dull green colour; but I have never ſeen it produce either bloſſom or fruit. It is here eſteemed a moſt fatal poiſon; and the ſmoke of the burning wood, is fatal to all animals, when received into the lungs by inſpiration; for this reaſon, on ſeveral of the interior

planta-

plantations ſituated on the ſides of theſe rivers, where a few of theſe trees have been found, they have been left growing, and the ſoil adjacent to them has been left uncultivated.

The Caruna, as it is termed by the *Indians*, is the poiſon nut of a ſmall tree, or ſhrub, covered with a thin brown bark, and having ſmall, oval, light green leaves. From the extremities of the branches ariſe ſeveral reddiſh coloured bloſſoms, which are afterwards ſucceeded by the nuts. Theſe nuts, deprived of their external huſky teguments, appear in form of the *American* Anacardium, being about ten lines in length, five in diameter in the middle, and four near each end, where they bend ſomewhat inwards. Each nut has a hard brown ſhell, conſiſting of four pieces, which are joined laterally and longitudinally, but the cir-

cular longitudinal juncture is conſider-ably nearer to one end than the other, and thereby affords room for a cavity towards the end which is fartheſt from this juncture. Within this cavity is contained a farinaceous, ſomewhat oily kernel, equal in ſize to that of a hazel nut. The ſubſtance of this kernel is a ſlow but moſt fatal poiſon, and is ſaid to be a principal ingredient in the com-poſition of a white farinaceous poiſon, in the hands of the *Accawau* Tribe, which they ſometimes conceal under their nails, at their meetings, when they intend to revenge an injury, until an opportunity offers of putting it into the drink of the deſtined victim of this ſecret and ſlow, but fatal vengeance. The ſhells of theſe nuts are ſeparated from the kernel, and ſcoured with aſhes, &c. to free them from any noxi-ous quality, and are then ſtrung on ſtrings, and faſtened round the ancles

of

of the *Indian* dancers, at their feſtivals. But the *Indians* are particularly careful not to touch their food whilſt they are preparing theſe ſhells, nor afterwards, until their hands have undergone the like proceſs of purification.

Nibbees (as they are termed both by the *Indians* and White Inhabitants) are a ſpecies of ligneous cordage, of great length and of different magnitude, from half an inch diameter to eighteen inches circumference: theſe are what the *Spaniards* call Bejucos. They are extremely numerous in the interior and more elevated part of the country, where they are ſeen mounting to the tops of the higheſt trees, deſtitute both of leaves and branches, from thence deſcending to the earth, again taking root, and remounting the next tree; thus communicating from tree to tree to a great diſtance, in oblique, horizontal,

and perpendicular directions, like the rigging of a ſhip, and ſometimes entwining themſelves with each other, and then ſurrounding the trunks of the contiguous trees, in ſpiral aſcending circles, and killing them by mere compreſſion; whilſt ſome inſert their tendrils into the bark of other trees, and deſtroy them, by robbing them of their nouriſhment. The larger kind of theſe Nibbees are frequently uſed for mooring veſſels of burthen to the ſhore; whilſt the ſmaller are ſplit into ſmall ligaments, by the *Indians*, and applied to many uſeful purpoſes, particularly that of tying the thatch of houſes. Theſe Nibbees are, however, of various kinds and properties: Thoſe which are round are generally harmleſs; but thoſe which are either flat, angular, or chanelled into longitudinal grooves, are uſually poiſons of the moſt deleterious kind. To this rule, however, there are ſome

exceptions. The Woorara, which is the principal ingredient in the compoſition of the fatal *Indian* arrow poiſon of that name, is of the flat ſpecies. Of this poiſon I ſhall be more particular hereafter. The poiſon of ſeveral of theſe Nibbees is ſo active and fatal, that many of the *Indians* are afraid even to cut them.

Vanilla, or Vanells, are the fruit of a ligneous ſiliquoſe vine, bearing large angular leaves, and an anomalous flower, conſiſting of ſix petals, five of which are diſpoſed in circular order, and form an impalement round the ſixth, which is placed in the centre, and is concave. To theſe ſucceed the pods, which, when ripe, are almoſt round, narrow, about ſix inches in length, and near one in circumference, being ſomewhat wrinkled, ſoft, oily, and of a reddiſh colour. Within the external tegument is con- *Vanilla.*

tained a reddiſh pulp, intermixed with numerous ſmall black ſeeds, of an aromatic taſte, and fragrant ſmell, ſomewhat reſembling that of Balſam *Peru*. Their uſe in chocolate is already ſufficiently known.

Batts-Bane is the fruit of a woody vine, growing by the edges of water, and ſupporting itſelf by the neighbouring trees. It bears a large triangular leaf, and near its top ariſe ſeveral long foot-ſtalks, ſupporting cluſters of blueiſh white pentapetalous flowers, which are ſucceeded by cluſters of globular ſomewhat angled fruit, incloſed in a ſmooth green huſky tegument. They are about nine lines in diameter, and are uſed by the *Indians* only to poiſon Batts, (which are here very troubleſome,) for which purpoſe they are very effectual.

Troolies

Troolies are, perhaps, the largeſt leaves that have been hitherto diſcovered in any part of the world. Each leaf is ſupported by a ſingle ſtem, which ariſes immediately from the root, and becomes the middle rib to the leaf, running through its whole length. Theſe ſtems are hard and ſtrong, being near the root about three inches in circumference, and gradually tapering from thence to the end. Each leaf is from twenty to thirty feet in length, and from two to three feet in breadth. The fibres are ſtrong, and cloſely connected from one end to the other, without any ſections or diviſions. Ten or a dozen of theſe leaves uſually grow in a cluſter, from a cluſter of ſmall fibrous roots; from the centre of the leaves ariſes a ſhort ſtem, ſupporting a cluſter of yellowiſh white flowers, from which are produced a great number of large globular nuts, which conſiſt of a rough

brown external tegument, and a thick, hard, black ſhell, containing a hard kernel in its cavity, to which there is a paſſage by a ſmall circular hole; when the kernel is extracted, without breaking the ſhell, it reſembles a ſmall hand grenade, for which it might be a tolerable ſuccedaneum, on account of the weight, thickneſs, and hardneſs of the ſhell. The Troolies grow here in great plenty, and are a very valuable production, ſerving, with little trouble, to cover the roofs of houſes in a very advantageous manner, as they will effectually exclude the moſt violent rains, and laſt for many years.

The Muccomucco always grows in water, at the edges of rivers. It is uſually at the bottom eighteen or twenty inches in circumference, tapering to its height, where it does not exceed ten lines in diameter. It uſually grows eight

eight or ten feet in height, and is jointed every few inches. It is covered with a ſmooth bark, of a light brown colour, but its internal ſubſtance is a ſoft ſpongy pith. At the very top it divides into two or three green foot-ſtalks, which ſupport each a large oval leaf. Theſe leaves poſſeſs a violent attrahent, or drawing quality; and the Slaves, who frequently feign indiſpoſition to eſcape a day's labour, often bind them on their feet at night, which the next day are found ſwelled to an enormous ſize. The *Indians*, when their eyes are inflamed, often tie them over the eyelids, and a plentiful ſecretion from the lachrymal glands uſually enſues, which generally reſolves the inflammation; and the white inhabitants frequently imitate their example with ſucceſs. Theſe leaves are alſo applied to veſications, to promote a copious diſcharge.

The

The Roots of Hiarree * are either produced ſpontaneouſly, or cultivated by the *Indians*. The latter, however, are much the beſt, and make a conſiderable part of the traffic of the *Accawau* Tribe, who barter it with the White Inhabitants, as well as the *Indians* ſituated near the ſea-coaſt, for ſuch commodities as they want, as it grows only in the interior parts of the country, in a dry elevated ſoil. It is the root of a ligneous ſhrubby plant, growing about ſix feet in height, with large ſinuated leaves, which are narrow at both extremities. The roots grow to eight or ten feet in length, continuing of almoſt equal magnitude until near the extremities, when they diverge into ſeveral

* This name is diſtinguiſhed from that of a poiſon tree before deſcribed, only by an *i* inſtead of an *e*. And many other of the *Indian* words have ſo near an affinity in ſound, that their diſſimilarity is imperceptible, without great attention.

branches.

branches. They are round, about three inches in circumference, and of a tough fibrous texture, reſembling that of the freſh dug roots of liquorice, but are covered with a yellowiſh brown cuticle, or ſkin, like that of a parſnip. When brought for ſale by the *Accawaus*, they are uſually cut into pieces, about two feet in length, and tied up in ſmall bundles. One of theſe pieces bruiſed, and thrown into a creek or river, either at the point of high or low water, when the water ſtagnates, is ſufficient to inebriate all the fiſh within a conſiderable diſtance, ſo that, in a few minutes, they float motionleſs on the ſurface of the water, and are then taken with eaſe; but if they are neglected, they ſoon recover, unleſs the water has been impregnated with a very great quantity of the inebriating particles of the Hiarree. Almoſt all the fiſh eaten in this country are thus taken, nor has it ever been found

found that they were rendered unwholeſome by the Hiarree, whoſe noxious particles, like thoſe of the Caſſava, are probably corrected by a culinary fire. Don *Antonio Ulloa* * mentions a ſpecies of herbs uſed by the *Indians* on the river *Guyaquil*, in *South America*, for fiſhing, which he ſays the *Indians* chew, and throw into water. Should the *Indians* of *Guiana* chew the Hiarree, they would expect to become as motionleſs as the fiſh which are taken with it; nor am I able to conceive how it can be otherwiſe with thoſe of *Guyaquil*, ſince humanity has never yet been found a ſecurity againſt the noxious effects of either natural or artificial productions; nor are there any animals of equal magnitude, ſo eaſily affected, either by medicines or poiſons, as thoſe of the human ſpecies. I will not, however, deny the

* Relacion Hiſtorica del Viage al America Meridional, &c.

credi-

credibility of the fact, on the ſtrength of its improbability; though I conjecture, from ſeveral circumſtances in the manner in which it is mentioned by *Ulloa*, that he has related it rather from information, than his own obſervation.

Currawattie, as it is termed by the *Indians*, is the fruit of a large plant found uſually in valleys, at the bottom of the ſandy hills in the interior part of the country. This plant conſiſts of a cluſter of reddiſh herbaceous ſtalks, growing four or five feet in length, and ſupporting large, ſmooth, thick leaves, of a long oval form, being near eight inches in length. In the center of theſe leaves is found an erect, tough, fibrous ſtem, about two feet in height, ariſing immediately from the root: round this ſtem appear a cluſter of large fleſh-coloured tetrapetalous flowers, connect-

ed

ed to it by ſhort reddiſh pedicles. Each flower is ſucceeded by a quadrangular ſomewhat oval fruit, in ſize a little larger than a walnut. This fruit is compoſed of a compact angular cluſter of ſmall aromatic ſeeds, nearly reſembling, both in ſmell and taſte, the Grains of Paradiſe. Theſe are contained in a tegument compoſed from four united parts. This tegument is about two lines in thickneſs, and replete with a bright reddiſh purple juice, which is ſomewhat aſtringent, and is uſed by the *Indians* for ophthalmies; and when uſed as ink, it changes, by the air, to a beautiful blackiſh blue colour, which remains unchangeable. It alſo communicates a ſimilar dye to linen, cotton, &c. but ferments ſoon after its expreſſion, (unleſs it is uſed,) and then changes to a dull green colour. There is likewiſe a ſmaller ſpecies, always found contiguous to the larger. The fruit adheres to a

long

long ſmall ſtalk, diverging into a great number of branches, which are found incumbent upon the ſurface of the earth. The ſeeds of this fruit are not diſtinguiſhable from the former, but the tegument is thin, huſky, and deſtitute of that juice with which the other is replete.

The White Ipecacuanha is the root of a plant bearing a ſtalk about three feet in height, with large, ſmooth pointed leaves, and yellow bloſſoms, which are ſucceeded by round long-pointed pods, about two inches and a half in length, having a ſmooth green tegument, incloſing an aſſemblage of white, ſoft, ſhining, ſilky filaments, connected at one end to a great number of ſmall, thin, and flat ſeeds, of a dark brown colour. The roots are ſlender, woody, ſmooth, and emetic; but they are never

uſed

uſed by the *Indians*, who recur only to the bark of the Wallabba tree for that purpoſe.

Here are likewiſe a great multitude of White Rattans, reſembling thoſe brought from the *Eaſt-Indies*, together with Bamboos, growing in cluſters on the banks of the rivers, or in a low, ſwampy ſoil, guarded with long prickles, which render them impenetrable. Penguins are likewiſe ſpontaneouſly produced in abundance on the hills, together with a great plenty of ſmall Ananas, or Pine-Apples, which are very ſweet and agreeable, together with a variety of other tropical fruits, which it would be tedious to enumerate.

The order, to which I have hitherto adhered, would now lead me to conſider the multitude and immenſe variety of herbs

herbs which every where cover the ſurface of the earth, and which probably poſſeſs many valuable properties, which, however, are at preſent unknown; and as a deſcription of theſe exotic productions, without the knowledge of their qualities, would contribute but little either to utility or entertainment, I ſhall leave them in obſcurity, and finiſh my Eſſay on the Vegetable Syſtem of this country, with an obſervation from *Pliny*, which is very applicable to the Natural Hiſtory of *Guiana*:

" Multum adhuc reſtat operis, mul-
" tumque reſtabit, nec ulli nato poſt
" mille ſæcula præcluditur occaſio ali-
" quid adjiciendi."

The great length to which this Letter has already extended, obliges me to defer the ſubject of my private concerns to a future occaſion. Happily,

I indeed,

indeed, they have ſuffered but little alteration ſince I had laſt the pleaſure to aſſure you of the affection and devotion with which I ſhall ever continue,

Dear Brother,

Your, &c.

LET-

LETTER II.

Rio Demerary, Aug. 15, 1766.

Dear BROTHER,

THE diſagreeable circumſtances which lately occurred in my private ſituation, and of which I a few days ſince wrote you an account, being now happily removed, I am permitted to reſume the ſubject of Natural Hiſtory, than which, perhaps, there is no ſtudy capable of affording more rational pleaſure to a cultivated mind. Moſt other ſciences terminate in doubt and uncertainty, and after ages ſpent in laborious reſearches, we have often the mortification to find, that we

have either purſued a phantom, or an object which Nature has inveloped with a veil impenetrable to human ſagacity. The hiſtory of actions and events is indeed unconnected with theſe diſagreeable attendants, but is ever united with a ſeries of melancholy accidents, and unamiable truths, which ſuggeſt a chain of painful and often humiliating reflections, abundantly ſufficient to allay the ſatisfaction which the mind derives from contemplating the variety and mutability of ſublunary events. But the ſtudy of Natural Hiſtory, which ever terminates in certainty, is unaccompanied with theſe unpleaſing attendants, and the mind is left to the full enjoyment of that pleaſure, which it ever muſt receive in comparing the ſimplicity, variety, and beauty of Nature, in her ordinary operations, with thoſe wanton productions in which ſhe eludes the comprehenſion of finite reaſon; and

while

while it teaches us the uſes and properties of ſurrounding and diſtant objects, and their application to the neceſſities and conveniencies of humanity, naturally tends to inſpire the mind with ſentiments of gratitude to their beneficent Creator.

In the following Letter I propoſe to give you a deſcription of the Animals inhabiting the country of *Guiana*, and jointly ſharing, with the Human Species, the enjoyment of its common bleſſings. Theſe may be commodiouſly divided into Terrene, Marine, or Aqueous and Amphibious; but the latter ſpecies, to avoid unneceſſary diviſions, I ſhall deſcribe among the claſs of Land Animals: Theſe, purſuant to the example of Mr. *Ray*, I ſhall range by their moſt obvious qualities, reſerving thoſe of the Human Species, with their Religion, Manners, and Cuſtoms, for

the ſubject of a future Letter, inſtead of claſſing them, according to *Linnæus*, with Monkeys.

Among the different ſpecies of Land Animals, Quadrupedes ſeem to demand a primary conſideration, as being to mankind the moſt intereſting of the animal creation, on account either of their reciprocal ſervices, or mutual enmity. Theſe are either Savage or Domeſtic; tho' the number of domeſtic animals muſt naturally be few in *Guiana*, where the perpetual abſence of winter, by rendering human providence unneceſſary for their ſubſiſtance, has enabled them to enjoy a life of ruſtic freedom and independence.

In the following Letter I ſhall not deſcend to an anatomical deſcription of the internal ſtructure and mechaniſm of the Animals of this country, which would

would carry me beyond the limits I have propoſed to myſelf, and perhaps afford but little entertainment. Here it might not be amiſs to repeat, what I before promiſed, relative to the ſtyle of this Eſſay: Natural Hiſtory, like all other Sciences, has its peculiar language; and the criterion of this language, like that of Nature's operations, is ſimplicity; which is more particularly neceſſary in the deſcription of Animals than of Vegetables; and to diſguiſe this ſimplicity by foreign embelliſhments, would be as unnatural and ridiculous, as to cloath an Ape in human apparel.

Of Animals with an undivided hoof, there are but three, viz. the Horſe, Aſs, and Zebra, neither of which are natural to *Guiana*, nor even to any part of *America*: the two former have, however, been tranſplanted by the *Spa-*

niards, and other *Europeans*, and are very numerous in the Savannahs contiguous to the river *Oronoque*, where they run wild, as alſo Mules, generated by the Aſs and Mare.

Among ruminating animals, thoſe of the Beeve kind demand the foremoſt place; but neither the Bull nor Cow are natural to any part of *South America*, though, like the Horſe and Aſs, they have been ſucceſsfully tranſplanted into *Guiana*, particularly by the *Spaniards* near the river *Oronoque*, where they likewiſe run wild, and are become very numerous, being commonly ſold for about two dollars *per* head. The policy of *Spain* interdicts all commerce between her ſettlements and thoſe of the other *European* Nations on this coaſt; but many of their Cattle and Mules are notwithſtanding tranſported into the *Dutch* Settlements on *Guiana*, by

by traders, who either go with a force ſuperior to that of their Guarda-coſtas, or eſcape their obſervation. It has been ſaid, that all *European* animals have diminiſhed on being tranſplanted to *South America*; but this is far from being the caſe with the Beeves, who are improved in ſize, though the taſte of their fleſh, on account of the exceſſive perſpiration they ſuffer in this climate, is ſomewhat leſs delicate.

Sheep, which are likewiſe unnatural to *Guiana*, have been tranſplanted hither, though not with the ſame ſucceſs as the former. Here, as in other Tropical Countries, their wool changes to hair; but Nature has ſupplied this change by the wool of the Cotton tree, which, in warm climates, is better adapted to human uſes, than that of the ſheep.

The

The Goat of *Guiana* is in ſize but little larger than an *European* Kid; its hair, however, is ſimilar to that of the Goat in *Europe*. Its horns are ſhort, ſlender, and incurvated downwards. They are extremely prolific, and uſually produce three kids at a litter, and ſometimes four or five.

Of Deer, in *Guiana*, there are two kinds, one large, and the other ſmall. The former is both by the Natives and *Europeans* termed Baieu, and the latter Wirrebocerra. The Baieu is a Stag, about the ſize of the *European* Buck, having a large head, with ſhort horns, curvated at the extremities; the neck is ſhort and thick; its ears are large and depending; the eyes are bright and lively; and its tail is ſhort and thick: the body is covered with ſhort hair, of a reddiſh brown colour, except on the belly, where it is white. Their fleſh, though

though good, is inferior to the Veniſon of *Europe*. They are in great plenty, and feed not only in the Savannahs in the internal part of the country, but at the very confines of the Plantations, and are frequently killed by the *Indian* Hunters.

The Wirrebocerra is at leaſt one third leſs than the Baieu, and entirely deſtitute of horns. Theſe ſeem to be of the ſame ſpecies which Father *Labat* deſcribes at *Cayenne* *. Their whole ſtructure is extremely ſlender and delicate. Their heads are ſmall, ears narrow and ſhort, necks long and arched, eyes lively and piercing, tails ſmall and ſhort, feet cloven, and their legs ſlender and nervous, and peculiarly adapted to that velocity of motion, by which alone they are able to preſerve them-

* Voyage du Chev. de Marchais en Guinée & à Cayenne, &c.

ſelves

ſelves from the attacks of the Tiger, and other voracious animals, whom the great delicacy of their fleſh has rendered their enemies. They are covered with a ſhort ſoft hair, of a reddiſh fallow colour. They are light, nimble, and extremely timid, and their fleſh is the moſt tender and delicate of all the Deer kind. They are frequently ſeen ſwimming acroſs the rivers, when they are eaſily taken alive, as their ſlender legs are but ill adapted to the purpoſe of ſwimming. *Labat* ſays they are hunted by Negroes; but in this part of *Guiana* hunting is never undertaken either by Whites or Negroes, but is left ſolely to the *Indians*, as their native employment, in which they excel all others.

Beſides the Hogs, which have been tranſplanted from *Europe*, and which are become wild in many places, there

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are two ſpecies, which are peculiar to thoſe parts of *America* ſituated between the Tropics, and more eſpecially abundant in *Guiana*; theſe are, the Picary and Warree. The Picary is conſiderably ſmaller than the ordinary *European* Hogs, and his back is beſet with long, thick, ſtiff, griſly briſtles, near five inches in length, and is remarkable for a gland reſembling a navel, for which it has been generally miſtaken, which is ſeated on the ridge of the back, over the hinder legs, and which ſecretes a milky liquid, emitting a muſky ſmell: But as a particular deſcription of this animal has been publiſhed by Dr. *Tyſon*, by whom one of them was diſſected, I ſhall content myſelf with obſerving, that they are far from being ſo terrible as has been repreſented; for though they uſually go in droves, to the amount of near an hundred, the *Indians* always attack them, and ſeldom

fail

fail of killing a ſcore or two before they eſcape. The *Indians* are very fond of the fleſh; but the peculiarity of the glandulous body on its back is diſguſtful to the Whites, who ſeldom eat the fleſh of the Pecary. The precaution which *Wafer* * ſays the *Indians* of *Darien* take to ſeparate this glandular body, ſoon after the animal is killed, is likewiſe obſerved by the *Indians* of *Guiana*.

The Warree Hog has likewiſe been mentioned by *Wafer*, but by no other Writer of Natural Hiſtory. They are here more numerous even than the Pecary, being much larger; but, like them, running in large droves. In ſize and ſhape they nearly reſemble the *European* Hogs, except that their ears are ſmaller, and they have larger tuſks, and are covered with long coarſe hair,

* *Vide* Voyage to the Iſthmus of *America*.

or briſtles, thickly ſet on every part of the body. Their fleſh is leſs oily and more delicate than *European* pork, and is much eſteemed by the White Inhabitants in theſe colonies.

A ſpecies of the Hippopotamus, or Water Horſe, ſimilar to thoſe found on the coaſt of *Africa*, near the *Cape of Good Hope*, I am informed have been taken in the river *Eſſequebo*, but of a much ſmaller ſize. They are an amphibious animal, delighting in freſh water rivers, and feeding on the graſs growing on their banks. Theſe animals, in colour and ſhape, reſemble the Rhinoceros, but their legs are ſhorter, and of equal ſize from top to bottom. The head reſembles that of a Horſe, with a large mouth and noſtrils, but ſmall eyes and ears, and his tail is ſhort and blunt, and thinly covered with ſhort hair.

hair. This animal is particularly diſtinguiſhed by his tuſks, which are four in number, riſing out of the mouth, a conſiderable height from the lower jaw, being in ſize equal to an ox's horn, and extremely white. The ſkin is an inch in thickneſs, and, except on the head, almoſt impenetrable to a muſquet-ball. Theſe animals are of great ſize, frequently weighing between two and three thouſand weight, at the *Cape of Good Hope*, though they do not exceed twelve hundred at *Eſſequebo*, if I am rightly informed, for I have never had an opportunity of ſeeing any one. The fleſh is greatly eſteemed.

The Laubba, as it is termed both by the Natives and *Europeans*, is an amphibious animal, peculiar to *Guiana*, and of which no deſcription has been ever tranſmitted to *Europe*. The body of this animal is round, ſhort, and thick,

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in ſize equal to that of a pig four months old. The neck is thick and ſhort, and the head, in ſhape, pretty much reſembles that of a *Dutch* Maſtiff's, or Pug-dog, but both its eyes and ears are much ſmaller. It has no tail; the legs are ſhort and the feet reſemble thoſe of a dog. The Laubba is covered with fine ſhort hair, of a cheſnut colour, except under the belly, where it is white; but this cheſnut coloured hair is diverſified with white circular ſpots, about three inches in circumference. Theſe animals feed on herbage, grains, and fruit: When purſued, they uſually retire to the creeks, and will ſwim a great diſtance under water, though they ſeldom dive ſo far from the ſurface as to be inviſible to the *Indians*, who commonly ſhoot them with arrows while under water. Their fleſh is extremely delicate and tender, and is by the *Europeans* preferred to all

other kinds of meat, even the veniſon of the Wirrebocerra not excepted.

Animals of the Ape kind are, in this part of *America*, in greater number and variety, than in any other part of the known world. This extenſive variety, from the Orang-Outang to the Saccawinkee, and the difficulty of procuring them, has engaged me to abandon a deſign I once formed, of giving you an accurate deſcription of their ſeveral ſpecies, which, I am fully convinced, could hardly be comprized within the compaſs of an ordinary octavo volume.

The Orang-Outang of *Guiana* is much larger than either the *African* or *Oriental*, if the accounts of the natives may be relied on; for I do not find that any of them have been ſeen by the White Inhabitants on this coaſt, who never penetrate far into the woods. Theſe

Theſe animals, in all the different languages of the natives, are called by names ſignifying a Wild Man. They are repreſented by the *Indians* as being near five feet in height, maintaining an erect poſition, and having a human form, thinly covered with ſhort black hair; but I ſuſpect that their height has been augmented by the fears of the *Indians*, who greatly dread them, and inſtantly flee as ſoon as one is diſcovered, ſo that none of them have ever been taken alive, much leſs any attempts made for taming them. The *Indians* relate many fabulous ſtories of theſe animals; and, like the inhabitants of *Africa* and the *Eaſt*, aſſert, that they will attack the males, and raviſh the females of the human ſpecies.

The Ape, here called a Quato, is large, and covered all over with long black hair, except the face, which is

bald, and wrinkled. The ears are large, and of a human form, the eyes deeply ſunk in their orbits, and the noſe very much reſembling that of a Negro, but ſmaller. The body is near two feet in length, and round the thorax about eighteen inches in circumference. They have neither beard nor tail. Theſe animals are frequently tamed, and in all their actions demonſtrate an uncommon degree of art and dexterity, not without a mixture of that miſchievous ſagacity for which they are remarkable. When their hands or fore feet are tied behind the back, they will walk and run in an erect poſition for a whole day, with the ſame eaſe and familiarity as though they were in their natural poſture. When one of theſe animals is beat, he immediately runs and climbs a lemon or orange tree; and, if he is purſued, will pick the lemons and oranges, and drop them on the head of the

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purſuer, and even endeavour to repel him by voiding his excrements upon him, at the ſame time making a variety of grimaces, and aſſuming a thouſand ridiculous attitudes, which afford no ſmall diverſion to the ſpectators. The males are very laſcivious, and frequently practice ſelf-pollution; but what is more particularly worthy of notice, is, that the females of this tribe of animals have their menſtrua with the ſame regularity as thoſe of the human ſpecies.

The Howling Baboons, as they are here called, ſeem to be the animals which are here deſcribed by *Marcgrave*, and which are called by the natives of *Braſil*, Guereba. They are of the ſize of a fox, covered with fine ſmooth hair, of a ſhining black, except on the legs, where it is of a browniſh cheſnut colour. The viſage of this animal is erect, and pretty much reſembles that of the

Quato, but its ears are ſmaller, the eyes more prominent, and the chin is covered with a long ſtreight black beard. They have a long tail, which is almoſt naked towards the end, the hair being probably worn off, by frequently claſping round the branches of trees, when they remove from one to another. They are the moſt numerous and vociferous of all the Monkey tribe, and frequently aſſemble by hundreds, both by night and day, and ſet up an inceſſant loud and diſagreeable howling, which is heard at a great diſtance, and is not a little troubleſome to the inhabitants. Sometimes the howling is kept up only by one for ſeveral minutes, until the reſt join in the chorus; but theſe intermiſſions are not very frequent, as they ſeem to abhor taciturnity at theſe aſſemblies, and are unwilling to deny themſelves the pleaſure of contributing a ſhare to this noiſy entertainment. Beſides

ſides theſe, there is another Monkey, ſomewhat larger than the howling Monkey, which is covered with long reddiſh hair, having large ears, a long red beard, and a long buſhy tail. Theſe animals, if poſſible, make a more hideous yell than the former; but happily their meetings are leſs frequent.

As the Orang-Outang is the largeſt, ſo the Saccawinkee is the ſmalleſt of the Ape tribe in *Guiana*. Its name is of *Indian* origin, though it has been adopted by the White Inhabitants. The body of a Saccawinkee, from the head to the root of the tail, is about ſix inches in length: the tail is about nine inches long, and covered with very long black hair: the head is ſmall, as are the ears, which are almoſt round; the noſe is ſlender and flat, and the eyes ſomewhat prominent, and of a ſhining black colour: the face is covered with

a fine white downy hair, and the body is cloathed with long hair, of a ſhining black, except at the points, where it is white. Theſe animals are frequently tamed, and their tricks and geſtures are not a little diverting; but they can never be diveſted of a miſchievous diſpoſition, for which they are remarkable, and which ſeems conſtitutional.

Between the Quato and Saccawinkee there are numerous ſpecies of theſe animals, of intermediate ſizes, of which it would be impoſſible to convey diſtinct ideas by verbal deſcriptions, were I able to give them; but notwithſtanding I have reſided in *Guiana* near three years, I can by no means pretend to have ſeen all the different ſpecies of theſe animals, almoſt every day preſenting a different kind to my obſervation, either in poſſeſſion of the *Indians*, or in the woods, where they are ſo numerous, that

that ſcores are often in view at once. Nor are theſe animals a little troubleſome, as they frequently rob the plantations of fruit, maize, rice, &c. Theſe expeditions they undertake with great ſagacity, ever uſing the precaution to place a centinel on a commodious high tree, to announce the approach of an enemy; a duty to which, it is ſaid, they ſubmit alternately; and that when they are ſurprized through the negligence or inattention of their centinel, they puniſh him ſeverely.

The Tiger of *Guiana* claims the precedence among animals of the Cat kind. They are ſomewhat leſs than thoſe of *Africa*, and of a more ſlender ſtructure, though the heads, mouths, ears, feet, toes, and claws are in every reſpect ſimilar in the mode of conformation. The hair on the back is of a greyiſh brown, variegated with black ſtripes, running

running longitudinally from head to tail. On the belly the hair is white, diverſified with black ſtripes, ſimilar to thoſe on the back. The tail is about eighteen inches long, covered with annular ſtripes of black and browniſh grey, diſpoſed in alternate order. They are a very fierce and miſchievous animal, frequently making incurſions on the plantations, and carrying away hogs, ſheep, &c. nor are the human ſpecies ſecure from their attacks, eſpecially at thoſe ſeaſons of the year when they have young; at which time they are very daring and ravenous, as the *Indians* ſometimes fatally experience; ſeveral inſtances of their attacking and killing the Natives, even when armed, having happened ſince my reſidence on this coaſt; tho' a late Writer, in comparing the Tigers of *America* with thoſe of *Africa* and *India*, affects to repreſent them as very deſpicable animals, in contradiction to what he has

advanced

advanced in another part of his work. Theſe, and other inaccuracies, ſeem ſomewhat inconſiſtent with the pretenſions of an Author, who boaſts of having examined on the ſpot, " whatever " *America*, or the known parts of *A-* " *frica*, have produced to excite curio- " ſity." I will not deny the Author's aſſertion on this particular, tho' I muſt declare, that I can no where diſcover the veſtigia of his obſervations in *Guiana*, and ſome other parts of *America* which I have viſited, tho' the Work, indeed, is not without merit.

The Tiger Cat of *Guiana* is about one third larger than the largeſt domeſtic Cats in *Europe*, and its head, whiſkers, ears, feet, toes, and claws, very much reſemble thoſe of an ordinary Cat, but are larger, and there is a great ferocity in its eyes and countenance. They are covered with a ſhort, fine, ſoft down,

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of a beautiful chefnut colour, variegated with deep black fpots fomewhat irregularly difpofed. They are a fierce, courageous animal, nor can they be rendered tame by any means whatever.

The Lynx of *Guiana* pretty much refembles the Tiger Cat, but is near twice as large. Its head, ears, feet, and toes, are fimilar to thofe of the Tiger, but fmaller; its claws are long and femilunar; and its mouth is fet with long whifkers: the hair, in the colour and difpofition of its ftripes, exactly refembles that of the Tiger. This is a fierce, rapacious animal; but I do not find that it ever attacks any of the human fpecies.

The Dogs of *Guiana* feem to be of a fpecies between the Hound and Land-Spaniel: their make is flender, their ears long and pendulous, with a blunt nofe,

noſe, and large mouth: their bodies are covered with long ſhaggy hair, generally of a fallow colour. They purſue and ſtart the Game by the ſcent.

The Badger of *Guiana* is about eighteen inches in length, covered with fine hair, of a dark cheſnut colour, except on the belly, where it is of a whitiſh yellow; and its tail, which is about ſixteen inches in length, is variegated with ſtripes of a ſimilar colour to the hair on the belly: its head is ſomewhat round, with a long muzzle, and large mouth: the ears are ſmall, and the eyes black and prominent; and his legs are ſhort and thick.

The animal called by the White Inhabitants of *Guiana* an *Indian* Coney, and by the Natives Puccarara, ſeems to be of an intermediate ſpecies between the Hare and Rabbit. In ſize, the colour

lour of their hair, and ſhape, they pretty much reſemble the Hare; but in the taſte of their fleſh, and in burrowing in the earth, they reſemble the Rabbit. Their legs are about four inches in length; their ears are ſomewhat ſmall, and roundiſh; the belly is white; and the head pretty nearly reſembles that of a Hare: they have cloven lips, but no tails. They are very prolific, and their fleſh compoſes near one half of the animal food of the Natives, as they are the moſt numerous, and eaſily taken, of any other animal, whoſe fleſh is equally palatable. Theſe are probably the ſame ſpecies of animals deſcribed by *Wafer* on the Iſthmus of *Darien*.

The *American* Porcupines are ſometimes ſeen in *Guiana*, but are not very frequent. Theſe animals have been already repeatedly deſcribed by the writers

ters of Natural Hiſtory, and therefore I ſhall refer you to their deſcriptions, as I have had no opportunity of accurately examining them.

The Squirrel of *Guiana*, in ſize and figure pretty much reſembles the common *Engliſh* Squirrel, but has a very long buſhy tail, which it commonly holds in an erect poſition. The body is covered with ſmooth fine hair, white on the breaſt and belly, but in other parts of the body of a pale yellowiſh brown colour, diverſified on each ſide by a ſmall white longitudinal ſtreak. The hairs on the tail are very long, and of the colour of thoſe on the body, but variegated with white and black colours.

The Rats of *Guiana* are extremely numerous, and much larger than thoſe of *England*, but otherwiſe, in every reſpect,

ſpect, ſimilar. They reſide chiefly among the canes; and the inhabitants, after cutting and removing the canes, fire their leaves in circles, by which thouſands of them are burnt.

The *American* Hedgehog is peculiar to *Guiana*, being about eight inches in length, and having a ſhort thick head, neck, and tail: on the head are two auditory holes, but no ears. The legs are between three and four inches in length, and each foot is divided into five toes, armed with long pointed bending claws. The back and ſides of the Hedgehog are covered with ſhort ſtiff prickles of an aſh colour, tinctured with a paleiſh yellow. The forepart of the head, belly, legs, and tail are covered with fine ſoft whitiſh hair; over the eyes the hairs are ſhort, and of a cheſnut colour, but on the back part and ſides of the head they are both longer and darker.

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The Tattu, or Armadillo, of *Guiana*, is the largeſt of that ſpecies of animals, being near three feet in length from the ſnout to the end of the tail. The head and ſnout are four inches long, and very much reſemble thoſe of a Pig, as do its ears. The body is near a foot and a half in length, and covered with a hard ſhell, conſiſting of two large pieces or ſhields, the one over the ſhoulders, and the other over the hips; the intermediate ſpace is filled by nine oblong girdles, or bands, covered with triangular ſcales; theſe are looſely connected by a ſtrong fibrous membrane, and ſupply the place of articulations, by which the animal is able to bend the ſhell into a circular form. The legs are ſhort, thick, and ſcaly; the fore feet have four toes, of which the two middle ones are equal, and the hind feet have five, of which the middle one is longeſt. The tail is about a foot in length, being thick at

its root, but gradually tapering to the end, where it terminates in a point; but the upper part conſiſts of ſeveral rings. Theſe animals burrow in holes in the earth, which they are very expert at digging: theſe holes are ſeen in great numbers, on all the ſandy hills diſtant from the ſea. Their fleſh, when young and tender, is very delicate; but when old, they acquire a rank muſky taſte, which renders them diſagreeable to the *Europeans*; tho' even then the Natives are fond of them. Beſides theſe, there are a ſmaller kind in *Guiana*, which are common in *Terra Firma* and *New Spain*.

The Bats of *Guiana* are the ſame with thoſe near the river of the *Amazons*, being twice as large as thoſe in *England*, and having no tail. The head and body are covered with a ſoft fine downy hair, of a brown colour. They

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are very expert at bleeding. Moſt of the inhabitants, whether *Europeans* or Natives, in this country, ſleep in hammocks, as being more ſecure from ſnakes and poiſonous inſects than beds, and their feet are thereby expoſed to theſe animals, who with great dexterity imperceptibly open the veins, and ſuck the blood, until they are ſatisfied; and it is not unfrequent for perſons to wake, and find themſelves faint and wet with their own blood. They likewiſe ſuck the blood of Horſes, Mules, Oxen, &c. in the ſame manner.

The Sloth is alſo common in *Guiana*, being of the ſize of a Fox; its fore feet are longer than thoſe behind, and each foot has three claws. But the peculiar characteriſtic of this animal is, his inſuperable averſion to motion, being of all animals the moſt indolent and inactive: Upon level ground they are unable to

move above forty or fifty paces in a day, and whenever they aſcend a tree, never leave it whilſt either fruit or leaf is remaining. When by beating they are forced to move, they make the moſt melancholy pityful noiſe and grimaces. But as theſe animals are common to all parts of *America* between the Tropics, and have been repeatedly deſcribed, I ſhall not enter into a more particular deſcription of them.

There are in *Guiana* three ſpecies of Frogs: the firſt is of a yellow colour, ſhaded with red; the ſecond is of a reddiſh aſh colour, variegated with red ſtreaks; and the third of a brown colour, with white ſpots.

The Pipa is a large venomous Toad peculiar to *Guiana*, and its young are bred in the back of the male, where the female depoſits the eggs. This Toad has

has been accurately deſcribed by the celebrated *Ruyſch*, to whom I ſhall refer you for a farther account of it.

Among the claſs of Lizards, Alligators evidently claim the firſt rank. They are frequently ſeen in *Guiana* in the rivers, and on the ſides of rivers near the ſea, in ſhape pretty much like a common Lizard, but near twenty feet in length, and of a dark brown or black colour. The upper edge of the tail is ſharp, hard, and indented like a ſaw: over each eye is a hard ſcaly protuberance, or knob, larger than a man's fiſt. The ſkin with which they are covered, is thick, ſcaly, and impenetrable to a muſquet ball, except at the head. They differ but little, except in colour, or perhaps not at all, from the Crocodile. In the river *Demerary* they are frequently ſeen, at low water, lying in the mud, to enjoy the ſun-ſhine; and their

young ones, three or four feet in length, are frequently killed on ſhoar by the Negroes with hoes or bills. They are leſs miſchievous here than they are reported to be in other parts of *America*.

The Iguana of *Guiana* is alſo of the Lizard kind, and is about three feet in length, from the head to the end of the tail. The ſkin is covered with ſmall thin ſcales, and is of a dull brown colour, variegated on the back and ſides with bluiſh ſtreaks, and on the neck with black ſpots. The legs and feet are of a dull blue colour, and the toes are armed with crooked claws. The back and tail are formed into a ſharp edge, which is indented. The ſkin under the throat hangs looſe like a bag, and its jaws are ſet with ſharp teeth like thoſe of a ſickle. They run with great ſwiftneſs, and are uſually killed by the *Indians* with arrows, among fruit trees, a-

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nana plants, &c. The flesh is esteemed a great delicacy by the *Indians*, Negroes, and even White Inhabitants who have long resided in the country. They bite very deep, but their bite is not venomous.

Here is likewise the *Mexican* Cameleon, remarkable for the change and beauty of its colours; and a great multitude and variety of beautiful Lizards, of different kinds, frequenting the houses and gardens. These are perfectly innocent and harmless; but the greater part of them are likewise found either in *Brasil*, *Terra Firma*, *New Spain*, or the *Caribee* Islands, and have been already described by *Linnæus*, in his *Systema Naturæ*, to which I shall refer you for a particular account of them.

HAVING given you an account of the moſt curious Animals in this claſs of Quadrupedes, I ſhall next proceed to the Deſcription of BIRDS inhabiting the aerial regions of *Guiana*, which, for the variety, vivacity, and luſtre of colours that adorn their plumage, are no where excelled. Theſe I ſhall range in the order which *Linnæus* has obſerved, in the tenth edition of his *Syſtema Naturæ*.

The Vultur is by *Linnæus* defined, a bird with a ſtreight beak, and crooked point; a head without feathers, naked before, and a cloven tongue. The only Vultur I have ever ſeen in *Guiana* is the duſky grey Vultur with black wings, and a white beak. It has been deſcribed by *Sloane* and *Ray*, and is common to *Braſil*, *Terra Firma*, *&c.*

The

The *Surinam* Falcon has a crooked beak, covered at the baſe with a wax-like ſubſtance: the tongue is cloven, and the head is thickly covered with feathers of a whitiſh brown colour, as are thoſe of the upper part of the body: thoſe of the under part, as alſo the prime feathers of the tail, are ſpotted with yellow and brown, and the legs are yellow. This animal has the power of diſtending his head with air almoſt to the ſize of his body, which he does when he is either angry or terrified.

The Strix, or Owl of *Guiana*, is the ſame as the *Braſilian* called *Caburc* by *Marcgrave*, being of the ſize of a ſmall Thruſh, with a crooked yellow beak, covered with briſtly feathers at the baſe, and having a large head, eyes, and ears, with a cloven tongue; the legs are ſhort and feathered, and the claws black. The head, back, wings, and tail are covered with

with feathers of a pale amber colour, ſhaded with white; and thoſe on the belly and breaſt are white, diverſified with pale amber coloured ſpots.

The Red *Lanius*, or Butcher Bird of *Surinam*, has a ſtreight bill, with a tooth on each ſide near the point, a naked noſe, and ſeemingly lacerated tongue. Its body is of a bright red colour, ornamented with ſpots like eyes on the wings and tail, which are black at the ends of the feathers.

The Black and White Butcher Bird of *Guiana* has a tapering bill, of a duſky brown colour, and the point of its upper mandible bends over the lower: the feathers at the baſe of the beak bend forward, and partly cover the noſtrils. Its legs, feet, and claws are of a duſky colour, and the head, body, wings, and tail are covered with feathers which are each of them diverſified with ſeveral

tranſverſe

tranſverſe bars or marks of black and white colours.

Among Birds of the Parrot kind, thoſe called Mackaws are the largeſt. They have all a crooked bill, which aſſiſts them in climbing, and whoſe upper mandible is moveable: their tongues are fleſhy, blunt, and undivided; and they have two toes before, and an equal number behind.

The Blue and Yellow Mackaw is in ſize equal to a large capon, having a wide black ſemicircular bill, three inches in length, and black claws. The legs are ſhort, and of a dark colour. The ſkin, about the cheeks and eyes, is diverſified with black feathers, and thoſe on the top of the head are green; the neck, back, wings, and tail are blue; the breaſt, belly, under part of the neck, and tail are of a reddiſh yellow; and the

the throat is ſurrounded by a band of a black colour.

The Red and Blue Mackaw is of the ſize of a hen, with a long tail in form of a wedge. Its upper mandible is black and white; the lower is intirely black: the cheeks are naked, with wrinkles; and the wings are blue above, but reddiſh beneath: among the covert feathers are ſeveral of a yellow colour: the prime middle feathers on the tail are red, and thoſe on the ſides are blue.

The Red and Yellow Mackaw is ſomewhat leſs than the former, and ſomewhat rare even in *Guiana*, to which it is peculiar. Both mandibles of its beak are black: the feathers on the back and upper part of the wings are yellow; thoſe on the top of the head and on the breaſt are red; and the long feathers

feathers of the wings and tail are blue and red.

Parrots, properly ſo called, are very numerous, and of different ſpecies, in *Guiana*, but none of them are deſtitute of green feathers, like the aſh-coloured bluiſh Parrot of *Guinea*, the White-creſted Parrot, and ſome others. They fly in large flocks, conſiſting of many hundreds, and many of them are killed by the *Indians*, who are fond of their fleſh. Their natural language is a hoarſe diſagreeable ſhrieking noiſe; and in this country it is almoſt impoſſible to teach a Parrot to imitate the language of the human ſpecies, or forget their own, whilſt they every day hear it from the flocks of wild Parrots. Theſe birds are here diſtinguiſhed by the name of Parrots properly ſo called, and thoſe which are termed Creatures: the latter reſemble the former in every particular, except

cept that they have leſs docility, and have a habit of nodding their heads and ſhrieking when any attempt is made to handle them; a cuſtom of which they can never be diveſted, tho' they are often taught to ſpeak very diſtinctly.

The largeſt Parrot in *Guiana* is called by the Natives *Acuſhe*. It is almoſt as large as a Mackaw, and its bill is long, ſlender, and of a fleſh colour. The body is covered with feathers of a beautiful pea-green; thoſe on the top of the head are red, as are the upper edges of the wings. The tail is long, and compoſed of green, red, and blueiſh purple feathers. Theſe are frequent in *Demerary*, and often ſpeak very diſtinctly.

The Blue-headed Creature is of the ſize of a common Green Parrot; his head is covered with blue feathers; the neck and body are green; the wings have

have green and blue feathers; and the tail, which is ſhort, is compoſed of red and green feathers: its bill is ſhort, crooked, and of a dull brown or earth colour.

The Yellow-headed Creature is likewiſe covered with green feathers, variegated with yellow on the top of the head, as are thoſe of the wings. The tail is ſhort, and has both yellow, blue, and green feathers. Its bill is like the former, but of a fleſh colour. Here is alſo

The Green Parrot of *Ray*, with a long tail, naked cheeks, and the upper edges of its wings reddiſh. Alſo

The Great Green Parrot of *Edwards*, with a ſhort tail, blue forehead, and crimſon ſhoulders.

The

The *Braſilian* Green Parrot of *Edwards*, with a ſhort tail, red face, and blue temples. The green is ſomewhat obſcured by a yellowiſh ſhade, and is red beneath the bending of the wings, and on the external ſides of two of the tail feathers; but the outer ſides of the prime feathers in the wings and tail are blue.

The Leſſer Green Parrot of *Edwards*, with a ſhort tail, the forehead and wings being ornamented with a red ſpot, and the top of the head and prime feathers of the wings of a blue colour.

The Cockatoo of *Guiana* is leſs than a common Parrot. Its bill is ſhort and cheſnut coloured, the upper mandible bending a good way over the point of the lower one. The head, cheeks, and neck are covered with long looſe feathers, of a dull red colour, variegated with

with whitiſh bars. The feathers on the top of the head are near an inch and an half in length, and theſe, as well as thoſe of the cheeks and neck, are erected at pleaſure. The body and wings are green; and the feathers of the tail, which are ſhort, are ſome green, and others of a dull red.

The Green Parroquet of *Guiana* is about the ſize of a ſmall Thruſh. Its bill is ſlender, and of a fleſh colour. The iris of the eye is outwardly reddiſh, but aſh-coloured near the pupil: the eyes are ſurrounded by a circle of bare fleſh-coloured ſkin, about one line in width, and the whole plumage is green, with a variety of ſhades. Theſe are the moſt numerous of all the Parroquets in *Guiana:* they are alſo found in *Terra Firma,* and ſome of the *Carribbee* Iſlands.

The Red-headed Parroquet differs from the former only by having the feathers of its head diverſified with crimſon ſpots. Here is alſo

The Brown-throated Parroquet of *Edwards*, with a Long Tail, being of a green colour, but the top of the head, and part of the quill feathers, are blue.

The Long-tailed Green Parroquet of *Edwards*, with a red beak and feet, the feathers of the tail being blue at the point.

The Lory Parroquet of *Edwards*, being of a yellowiſh green, with a long tail; the hinder part of the head and throat being red, but the top and ſides of the head blue: And

The Short-tailed Yellowiſh-green Parroquet of *Linnæus*, being of the ſize of a Sparrow, with a blue ſpot above and under the wings, and the prime feathers of the wings blue.

The

The *Toucan* of *Guiana* has a monſtrous hollow convex red beak, about ſix inches in length, and ſerrated outwardly; the noſtrils are behind the jaws; the tongue is long and thin like a feather, and its toes are diſpoſed like thoſe of a Parrot. Its ſize is equal to that of a common tame Pigeon, and its ſhape reſembles that of a Jackdaw. The head is large, and the upper mandible of its beak, at the baſe, is yellow; the lower one, at its baſe, is purple; the ſides of both mandibles are of a bright ſcarlet colour: the head is black, except two white ſpots near the upper mandible. The feathers on every part of the body are black, except the throat and upper part of the breaſt, where they are white; and the ſpace between the white feathers of the breaſt and the black on the belly, where the feathers are red, forming a creſcent pointing upwards.

The *Picus*, or Woodpecker, of *Guiana*, has a ſtreight bill ending like a wedge, with a long round pointed tongue, and its noſtrils are covered with briſtly feathers. Its ſize is ſimilar to that of *Europe*. It has three toes on each foot, and its feathers are a mixture of black and white; but thoſe on the top of the head and under the belly are of a bright red colour.

The *Alcedo* of *Surinam* has a triangular thick ſtreight long bill, with a ſhort flat tongue. It has two very long feathers in the tail: the body is of a blackiſh blue colour, and the wings are greeniſh. It is the Swallow-tailed Kings-fiſher of *Edwards*.

The *Certha* of *Guiana* has an arched, ſlender, ſomewhat triangular bill, with a pointed tongue. Its colour is blue, but the wings and tail are black, and the tail is of an unuſual length.

Hum-

Humming Birds in *Guiana* are extremely numerous, ſmall, and various. They ſupport themſelves in a ſteady poſition cloſe to the flowers, without lighting, by the motion of their wings, which is ſo very rapid as to be almoſt inviſible: in this poſition they inſert their tongues, conſiſting each of two fine fleſhy threads, into the cavity of a flower, and ſuck the honey: during this time, the quick motion of their wings makes a humming noiſe, like that of a Bee. They are the moſt beautiful of the winged creation, and by much the ſmalleſt of the feathered tribe, ſome of them not exceeding fifty grains in weight. Their neſts are extremely ſmall and curious, and are commonly built on the twigs of fruit trees, by the female, the male procuring the materials, of which cotton is the principal. The female lays two eggs at a time, which are clear, white, almoſt tranſparent, and

of the ſize of a pea. Both male and female alternately aſſiſt each other in the work of incubation, which laſts the ſpace of twelve days. Their whole food ſeems to conſiſt only of honey-dew and the juice of flowers.

The Humming Bird is diſtinguiſhed by a ſabulated thread-like crooked bill, longer than the head, the upper mandible being a ſheath to the lower, and the tongue is like a thread, forked and tubulous.

The Black *Trochilus*, or Humming Bird, is the ſmalleſt of the whole tribe, being not bigger than the top of a man's finger; and from the head to the end of the tail not more than an inch and an half in length. The bill is black and ſtreight, except near its point, where it has a ſmall bend; its length is about ſix lines, and the ſize is equal

to

to that of an ordinary pin. The large feathers on its wings and tail are of a fine black, but thoſe which cover the reſt of the body have a greeniſh brown colour, with a red ſhining inimitable gloſs. The head is creſted on the top with a ſmall tuft, green at the bottom, but of a ſparkling gold colour on the top. The velocity of theſe birds in flying is ſo great, that the eye can ſcarce keep pace with their motion. The whole body and feathers of theſe Birds frequently weigh leſs than fifty grains.

The Black and Blue Humming Bird is near twice as large as the former. The large feathers on the wings and tail are of a ſhining beautiful black; thoſe on the back are of a lively blue; and thoſe which cover the throat and breaſt are of a changeable crimſon, reflecting a variety of beautiful ſhades, in different lights.

The Small Green and Crimſon *Trochilus* is the moſt frequent of all the Humming Birds in *Guiana*, and ſeems peculiar to it; whereas the two former are common to many places in *Terra Firma*, and the *Carribbee* Iſlands. The ſize of this bird is about one third larger than the ſmalleſt of the two former. Its bill is black, long, and ſlender; the feathers on the neck, back, and upper edges of the wings have a beautiful pea-green colour: the top of the head is creſted with a ſmall tuft, of a variable crimſon colour: the feathers on the breaſt are likewiſe crimſon; and the long feathers on the wings and tail are green, crimſon, and dark purple. The head is ſmall, with little round black ſhining eyes.

The Little Brown Humming Bird of *Guiana* is equal in ſize to the former. The ſide feathers of its tail are of a violet

violet colour; and thoſe which cover the body are of a brick coloured brown, and ſpotted. Beſides theſe, there are in *Guiana*,

The Long-tailed Black-capped Humming Bird of *Edwards*, having long lateral feathers on the tail, of a brown colour, a greeniſh body, and black cap.

The Black-bellied *American* Humming Bird, having the tail feathers of equal length, and black on the upper ſide; the upper part of the body being green, the breaſt blue, and the body black.

The *Trochilus* of *Linnæus*, with a ferruginous tail, black wings, and a golden coloured body, whitiſh underneath: And,

The Green Streight-billed Humming Bird, with brown wings, an aſh-coloured belly, and blue creſt.

The

The Wild Duck of *Guiana* is ſomewhat larger than the *Engliſh* Tame Duck, which it pretty nearly reſembles in ſhape and colour, but its bill is black and crooked at the end, and the feet and legs are of an aſh colour. They are found in plenty, during the rainy ſeaſons, on the banks of rivers near the ſea.

Here is likewiſe a ſpecies of Teal, ſomewhat larger than the common Teal of *Europe*. Its bill is broad and black: The feathers on the head are of a whitiſh brown; thoſe of the neck, back, and wings are of a grey brown, variegated with ſpots and bars of a cheſnut colour: the breaſt and belly are covered with dull white coloured feathers. They frequent the rivers like the former, and at the ſame ſeaſons.

The Pelican, or Spoon-bill, of *Guiana*, has a ſtreight, flat, wide bill, ſix inches

in

in length, deſtitute of teeth, and crooked at the point, where it becomes wider, and circular; the upper mandible being augmented with a nail, and forming a cavity reſembling a ſpoon: this mandible is of a whitiſh brown colour, tranſparent, and diſcovers through its upper ſurface the red ramifications of its blood-veſſels: the lower mandible is of the ſame colour, but more fleſhy and leſs tranſparent. The head is bald and whitiſh, but the body is covered with red feathers, and the toes are connected by webs.

Here is alſo the *Platalæa* of *Linnæus*, with a flattiſh bill, dilated, orbiculated, and flat at the point. It is of the ſize of a Sparrow: the upper part of its body is brown, but the lower is white; and it has four toes palmated.

The Heron of *Guiana*, with a long, ſtrait-pointed, compreſſed bill, with a furrow

furrow running from its baſe towards the point, is the *Ardæa* of *Linnæus*, with a ſmall creſt on the back of the head, and a hoary back, the under part of the neck being of a ferruginous colour: the top of its head is black; the wings are brown, except the ſecondary feathers, which are black at the points, and it has four toes. The ſize of this Bird is nearly equal to the Heron of *Europe*.

The Curlew of *Guiana* is the *Indian*, or Red Curlew of *Ray*, having a long roundiſh arched bill. The body, wings, tail, neck, head, and thighs are covered with feathers of a beautiful bright red colour; but the long feathers on the wings are black at the points: the legs are long and ſlender; the feet are red, having four toes, of which the hindermoſt have ſeveral joints: the body is ſomewhat leſs than that of the common *Engliſh* Curlew, and the fleſh is much eſteemed.

eſteemed. They are very numerous at the ſides of Rivers, near the Sea.

On the Sea-coaſt, and near the mouths of Rivers in *Guiana*, are large flocks of Plovers, in ſize and ſhape anſwering to *Edwards*'s deſcription of the Spotted Plover of *Canada*.

The Spur-winged Water Hen of *Edwards* is likewiſe found in *Guiana*.

The Peacock Pheaſant of *Guiana* has been hitherto unheard of in *Europe*. It is found moſt frequently in the *Dutch* Colonies of *Berbice*, *Eſſequebo*, and *Demerary*, and in ſize is but little leſs than a common Turkey. Its bill is yellow except near the point, where it becomes blue, being about an inch and an half in length, and convex; its upper mandible is fornicated, and the edge dilated beyond the lower; and the noſtrils are partly covered with a convex membrane,

of

of a yellowiſh colour. The top of the head is creſted with a tuft of erect feathers, which are near an inch and an half in length, of a ſhining black colour, ſomewhat curling near the points, where they are variegated with white marks, or bars; but theſe marks are wanting in the female, whoſe creſt is leſs prominent: all the reſt of the body is covered with feathers of a ſhining black, except the belly, where the feathers are white: the tail is long, and black: the legs and toes differ only in ſize from thoſe of a common Turkey *. Theſe Birds are

* Since theſe Sheets went to the Preſs, the Author had an opportunity of ſeeing one of theſe Pheaſants, at an Exhibition of Birds in *Piccadilly*. The Keeper told him, it had lately arrived from *Braſil*, where it was called *Curaſſo* by the Natives. Maſters of Ships, ſailing to Foreign Countries, conſtantly purchaſe the moſt curious Birds, and tranſport them to *Europe*, by which means a conſiderable number of the Birds of *Guiana* have been already deſcribed by Naturaliſts, who never viſited that Country.

called

called *Poweſe* by the Natives, from their cry, which is ſimilar to that name; this being a circumſtance which the *Indians* ſeem to have always regarded in the naming of animals. They are eaſily tamed, being unable to fly any conſiderable diſtance. They are pretty numerous in the woods, and make no ſmall part of the food of thoſe Planters who are ſupplied with *Indian* Hunters. The fleſh is very much eſteemed, and when dreſſed, they ſo nearly reſemble Turkeys, as to be often miſtaken for them by ſtrangers.

There is a ſpecies of Dunghill Hens and Cocks, differing from the common *Engliſh* Dunghill Fowl only in being ſomewhat ſmaller, and having the feathers rumpled and uneven, which are brought from the inland parts of *Guiana*, where they are reared by the *Indians*, and which are doubtleſs natural to this part of *America*.

The

The Fowl, called by the *Indians* a *Marroodee*, is about the ſize of a common Pullet, and in ſhape but little different, except that its legs and neck are ſomewhat longer: the body is covered all over with feathers of a browniſh black colour: the colour of the bill is a dark brown, and the legs are grey. They are extremely numerous in *Guiana*, and perch on trees, making a noiſe ſomewhat reſembling their *Indian* name: this noiſe the *Indians* imitate ſo exactly, that the Birds anſwer them, and are thereby diſcovered. Their fleſh is much like that of a dunghill fowl, though perhaps ſomewhat inferior.

The *Hannaquaw* is a Bird of the ſame ſpecies with the Marroodee, but of a more ſlender ſhape, and their feathers are of a ſhining black: they likewiſe rooſt on trees, and may be heard early in the morning, diſtinctly, but hoarſely,

hoarſely, repeating the word *Hannaquaw*, very loud.

The Partridge in *Guiana* is of the ſame ſhape as the *European*, but near twice as large. Their feathers are of a light brown, or aſh colour, variegated with dark cheſnut coloured ſpots. They commonly run on the ground, ſkulking among the buſhes like a Quail, and, when ſtarted, fly with a loud noiſe. They are fat, round, and plump, and their fleſh is greatly admired. They are called *Mams* by the *Indians*.

The only Dove in *Guiana* is the leaſt Turtle of *Ray*, with ſpotted wings, the prime feathers of the wings and tail being of a duſky colour, the body purpliſh, and the bill and legs yellow.

The Mocking Bird of *Guiana* has a conical, gibbous, fleſh-coloured bill; the noſtrils are at its baſe. The ſize of theſe

birds is equal to that of an *Engliſh* Black-bird. The top of its head, its breaſt, and the upper edges of its wings, are of a bright crimſon colour; and the feathers on the other parts of the body have a ſhining black. Their neſts are built of hay, &c. and are cylindrical, being twelve or fifteen inches long, and eight or nine in circumference: they are ſeen depending from the high branches of the talleſt trees, and are toſſed to and fro by the wind; on which account their great length is neceſſary, that the Bird may not be thrown out by every guſt of wind, which would otherwiſe happen. The notes of theſe Birds are ſweet and harmonious; but they imitate thoſe of many other Birds.

The Rice Bird of *Guiana* has a bill like the former, and is of nearly the ſame ſize. The eyes are ſmall, of a lively black, and ſurrounded with circles of

of naked white ſkin: its head is ſmall, and all its feathers are as black as jet. It frequents fields of rice, from whence its derives its name.

Here is alſo the Leſſer Black Bullfinch of *Cateſby*, with a white ſpot on the ſhoulders, and on two of the external wing feathers.

Alſo the Grey *Loxia* of *Linnæus*, ſomewhat larger than a Raven, with a ſhort, thick, bluntiſh bill, the rump and under part of the body ferruginous, and the fourth, fifth, and ſixth of the tail feathers white at the baſe on both ſides.

The Blue Finch of *Guiana* has a conical bill, the mandibles receding from each other downwards at the baſe. The body is covered all over with feathers of a ſky blue colour; but the prime feathers of the wings, and the tail, are ſhaded with crimſon on the outer ſide.

The Yellow Finch has a bill like the former: its body is of a lively yellow; but the quill feathers of the wings, and the tail feathers, are variegated with green.

Here is likewiſe the Greater Bullfinch of *Edwards*, whoſe body is brown, diverſified on the breaſt, throat, and ſhoulders with patches of a blood colour.

The Bird here called a *Kiſhee-kiſhee* by the Natives, exceeds all the feathered tribe in the luſtre and variety of colours which adorn its plumage. It is ſomewhat larger than a common Houſe Sparrow, and has a conical, ſtreight, ſharp bill, of a light carnation colour. Its feathers are a confuſed aſſemblage of all the moſt lively and beautiful colours in nature: among theſe, yellow, ſcarlet, green, and a blackiſh purple, or indigo colour,

colour, have the greateſt ſhare: beſides theſe, there are white, black, and blue. All theſe colours are mixed with ſuch beautiful diſorder, that it is impoſſible to convey an idea of their diſpoſition. Theſe birds are brought by the *Accawau Indians* from the far inland parts of the country; and even here their common price is two piſtoles a pair. Many ineffectual attempts have been made to convey them to *Holland*.

The Red and Blue *Braſilian* Finch of *Edwards* is likewiſe ſeen here. It has a bill like the former, but of a bright red: the tail is like a wedge, and reddiſh, as well as the body; but the temples, rump, and belly are of a violet colour.

The Green Sparrow of *Guiana* has the head and upper part of the body green, the breaſt and belly are yellow,

and the prime feathers of the wings are white on the outer edge.

The *American* Sparrow of *Seba*, tho' it was ſent from *Barbadoes*, is a native of *Guiana*. Its back is of a fine black colour, the belly white, the head and breaſt of a lively blue, the rump of a deep green, and the wings and tail of a curious black with a purple ſhade.

The Red-bellied Blue Bird is a native of *Guiana*. It has a ſabulated ſtreight bill, with the mandibles nearly equal: its noſtrils are almoſt oval, and the tongue forked. It is of a blue colour, except the belly and back parts, which are reddiſh.

The Green Black-cap Fly-catcher of *Edwards*, with the prime feathers of its wings black, is alſo a native of *Guiana*.

The Black *Parus* of *Linnæus*, with a white, ſmooth, even bill, and truncated tongue,

tongue, terminating in briſtles, is likewiſe found in *Guiana*. It is black, with a yellow ſpot on the wings and tail.

Theſe are the moſt curious Birds in *Guiana*, tho' there are a multitude of others leſs remarkable for the beauty of their Plumage: and indeed the number and variety of this Claſs of Animals is here ſo great, that ſeveral perſons in this Colony advantageouſly employ themſelves, with their ſlaves and dependents, in killing and preſerving Birds for the Cabinets of Naturaliſts in different parts of *Europe*. The manner of doing this is not unworthy of a communication, as it is unknown in *Europe*. A method of preſerving the Bodies of Birds from Putrefaction, by filling the cavity of the thorax and abdomen with a mixture of Salt and Allum, after the inteſtines, &c. had been firſt extracted, and alſo by making inciſions in different parts of its body, and

filling them with the ſame mixture, was ſome time ſince publiſhed in one of the monthly Magazines; and the author, if I miſtake not, thought it an important diſcovery, which, it ſeems, he obtained in *Paris*, tho' not without great difficulty.

The method of doing this in *Guiana*, is to put the Bird, which is to be preſerved, in a proper veſſel, and cover him with High Wines, or the firſt Running of the Diſtillation of Rum. In this Spirit he is ſuffered to remain for twenty-four or forty-eight hours, or longer, according to his ſize, till it has penetrated thro' every part of his body. When this is done, the Bird is taken out, and his feathers, which are no ways changed by this immerſion, are placed ſmooth and regular. He is then put into a machine, made for the purpoſe, among a number of others, and its head, feet, wings,

wings, tail, &c. are placed exactly agreeable to life. In this position they are all placed in an oven, very moderately heated, where they are slowly dried, and will ever after retain their natural position, without danger of putrefaction. This method might perhaps in *England* be deemed expensive, as the great duty on Spirits has raised their price to an enormous height; but in a country where Rum is sold for ten pence sterling *per* gallon, the case is far different.

It ought to be remarked, that the Birds in *Guiana* excel rather in the Beauty of their Plumage than the Harmony and Sweetness of their Notes; and that the Flesh of Animals, in this and all Tropical Countries, is less succulent, or juicy, than in *Europe*, on account of their excessive perspiration.

THE

THE mechaniſm of FISH intitles them to the next rank in order after Birds. But there is a Marine Animal which is found on the Coaſt, or in the Rivers of *Guiana*, which cannot be ranked with the Claſs of Fiſh, and which merits a previous deſcription. This is the *Manatee*, or Sea-Cow, called by the French *Lamentin*. This animal is ſixteen or eighteen feet in length, and ſeveral feet in circumference, eſpecially at the navel, where it is largeſt. The head is like that of a Hog, but the muzzle is ſhorter; its eyes are ſmall, and placed in the middle between the ſnout and ears, or rather auditory-holes, which open and ſhut: the mouth is large, and has briſtles on each ſide, and its noſtrils reſemble thoſe of an Ox: the gums in the fore-part of the mouth are hard and toothleſs; the tongue is ſhort, and almoſt imperceptible, as is alſo the neck:

neck: the body is covered with a rough blackiſh ſkin, beſet with a few hairs: the back has ſeveral circular wrinkles, and there are ſeveral inequalities diſcoverable on each ſide: on the breaſt are two fleſhy paws, or fins, like wings, about eighteen inches in length; with theſe the animal ſupports himſelf when feeding on the graſs on the ſides of rivers; and with theſe the female holds her young to her breaſts, which are like thoſe of a woman. The animal has no fins but the tail, which is horizontal, like that of a Whale. They never intirely quit the water, and delight in freſh-water rivers, tho' they have been ſeen on the ſea-coaſt. The fleſh is commonly fat, and pretty much reſembles Veal.

The Salt-water Fiſh on the coaſt of *Guiana* are much leſs delicate than thoſe which live in freſh; this is occaſioned by the muddy water, which extends for thirty

thirty or forty miles from ſhore, the whole length of this coaſt; they are likewiſe almoſt all of them deſtitute of ſcales. The largeſt of theſe Fiſh is called *Lowlow*, and is about ſix feet in length and near three in circumference, covered with a blueiſh ſilver-coloured ſkin: the head is long and boney, and the mouth wide: it has a pair of fins a little below the head, and another on the belly; there is alſo a ſingle fin on the back, and a large one on the end of the tail. This is a ſalt-water Fiſh.

The Fiſh called, by the *Indians*, *Barroketa*, is the largeſt of the freſh-water kind, being about three feet in length and two in circumference, and almoſt round. Its ſhape is pretty much like that of a Salmon, but its ſcales are larger, and its body thicker in proportion. Its fleſh is white, and very fat and delicate. They are found chiefly in the

the upper parts of the rivers, where they are very plenty.

The Fiſh called a *Peri* by the *Indians* and White Inhabitants, is about eighteen inches in length, and three in breadth, being flattiſh, and covered with thin ſhining ſcales. It has a fin on each ſide of the belly, a little below the head, and a ſingle fin on its back, and another at the end of its tail. The head is broad, and the mouth large, and ſet with long ſharp teeth. This is likewiſe a freſh-water fiſh, and frequents the ſmall creeks and ſhores in queſt of food. It is extremely voracious, and bites every thing which hangs in the water. The feet of ducks ſwimming in the creeks are frequently amputated; as have been the breaſts of women, and the privities of men ſwimming in the rivers: for this reaſon, the White Inhabitants never bathe themſelves in the upper

upper parts of theſe rivers, where the waters are freſh, without tying a napkin or handkerchief about the waiſt: this precaution, however, is not made uſe of by the *Indians* in ſwimming; but they take care to continue in motion whilſt they are in the water; by which means the fiſh are frighted, and kept at a diſtance.

There are likewiſe near the coaſt, and in the rivers of *Guiana*, Saw-fiſh, Flounders, *Braſilian* Soles, *Surinam* Mackarel, Drummers, Old-wifes, Mullets, a ſpecies of Anchovies, Shrimps, and variety of other Freſh and Salt-water Fiſh, which I have not obſerved with ſufficient accuracy to deſcribe minutely. There is one, however, of the Eel tribe, which deſerves particular attention, and which I ſhall beg leave to call the Torporific Eel, till it is diſtinguiſhed by a more proper name.

This

This Fiſh is a native of freſh water, and is moſt commonly found in the River *Eſſequebo*, being uſually about three feet in length, and twelve inches in circumference near the middle. It is covered with a ſmooth ſkin, of a blueiſh lead colour, very much like that of ſheet-lead which has been long expoſed to the weather, being entirely deſtitute of ſcales. The head is equal in ſize to the largeſt part of his body, but ſomewhat flat on the upper and lower ſides, and its upper ſurface is perforated with ſeveral holes, like thoſe of a Lamprey Eel. The upper and lower jaws extend an equal diſtance, terminating in a ſemicircular ſhape, and forming a wide mouth, without teeth. On the back part of the head are two ſmall fins, one on each ſide, wnich, like the ears of an horſe, are either elevated or depreſſed, as the Fiſh is pleaſed or diſpleaſed. From about eight inches below the head

the

the body gradually diminiſhes in ſize to the tail, which ends in a point, without a fin. Under the belly is a fleſhy fin, about half an inch in thickneſs, and near three inches wide, extending from the head to the point of the tail, but diminiſhing in width, as the body diminiſhes in ſize: this, with the two fins on the head, are all that are found on the body of this Eel, which would be nearly round if deprived of the belly-fin. This Fiſh frequently reſpires, and elevates his head above the ſurface of the water every four or five minutes for that purpoſe. But the moſt curious property of the Torporific Eel is, that when it is touched either by the naked hand, or by a rod of iron, gold, ſilver, copper, &c. held in the hand, or by a ſtick of ſome particular kinds of heavy *American* wood, it communicates a ſhock perfectly reſembling that of Electricity, which is commonly ſo violent, that but few are willing to ſuffer it a ſecond time.

This

This is probably of the ſame ſpecies with the Fiſh which Monſ. *de la Condamine* curſorily mentions in his *Relation abregée d'un Voyage fait dans l'Interieur de l'Amerique*, &c. and which he calls " une eſpece de Lamproie," found in the environs of the city of *Para*, on the ſouthern ſhore of the River of the *Amazons*, " dont le corps comme celui " de Lamproie ordinaire eſt percé d'un " grand nombre d'ouvertures; mais qui " a de plus la même propriété que la " Torpille. Celui qui la touche avec la " main, ou même avec un baton, reſſent " un engourdiſſement douloureux dans " le bras, & quelquefois en eſt, dit on, " renverſé." This is all which that Gentleman ſays concerning this Fiſh; which pretty well agrees with ſeveral particulars obſerved in the Torporific Eel. But if the ſhock is conveyed by a ſtaff, as he mentions, it muſt be of a few particular kinds of wood, as I could

never diſcover any ſenſation from touching him with oak, aſh, or indeed any kinds of wood ſwimming in water, which I have tried. What affinity there may be between the ſhock of the Torporific Eel, and that of the Torpedo, I am unable to determine with certainty, having never felt the latter; but from all the particulars which I have been able to collect relative thereto, I think it is pretty evident, that both are communicated in the ſame manner, and by the ſame inſtruments.

Some years ſince the celebrated Monſ. *de Reaumur* * communicated to the Royal Academy of Sciences at *Paris*, a Paper, in which he undertook to demonſtrate, that the ſhock of the Torpedo was the effect of a ſtroke given with great quickneſs to the limb that touched

* Memoires de l'Academie Royale des Sciences, &c. 1714.

it,

it, by muſcles of a peculiar ſtructure. To this hypotheſis all *Europe* have yielded an implicit aſſent, and M. *de Reaumur* has hitherto enjoyed the honour of having developed the latent cauſe of this myſterious effect. But if we may be allowed to ſuppoſe, what is undoubtedly true, that the ſhock of the Torpedo, and that of the Torporific Eel, are both communicated in a ſimilar manner, and by ſimilar means, it will be no ways difficult to demonſtrate, that the whole of M. *de Reaumur*'s pretended diſcovery is a perfect non-entity. You may, perhaps, think it an act of preſumption in me, to diſputé the authority of a man, whoſe literary merit is ſo univerſally acknowledged; but I am convinced, that an implicit faith, in whatever is honoured with the ſanction of a great name, has proved a fruitful ſource of error in philoſophical reſearches; and whilſt I have ſenſe and faculties of my own,

am reſolved to uſe them with that freedom for which they were given. Humanity is ever expoſed to deception, and the charms of novelty may perhaps have precipitated M. *de Reaumur* into an error. But to demonſtrate, beyond the poſſibility of miſtake, that the ſhock of the Torporific Eel is not the *immediate* effect of *muſcular motion*, I need only deſire you to conſider the following particulars, viz.

1. The Torporific Eel, caught by a hook, violently ſhocks the perſon holding the line.

2. The ſame Eel, touched with an iron rod, held in the hand of a perſon, whoſe other hand is joined to that of another, &c. communicates a violent ſhock to ten or a dozen perſons thus joining hands, in a manner exactly ſimilar to that of an electric machine.

3. A

3. A perſon holding his finger in the water, at the diſtance of eight or ten feet from the fiſh, receives a violent ſhock, at the inſtant the fiſh is touched by another perſon.

4. This Eel, when enraged, upon elevating its head juſt above the ſurface of the water, if the hand of a perſon is within five or ſix inches therefrom, frequently communicates an unexpected ſhock, without being touched.

5. No ſhock is perceived by holding the hand in the water, near the fiſh, when it is neither diſpleaſed nor touched.

6. This Eel is eat by the *Indians* when dead; and,

7. The ſhock is more violent when the fiſh is highly enraged.

From theſe particulars it is apparent, that the ſhock is produced by an emiſ-miſſion of torporific, or electric parti-cles.

That their emiſſion is voluntary, de-pending on the will of the animal, who emits them for his defence, either when touched or enraged.

That the exiſtence of theſe particles depends on that of the Eel, and termi-nates with its life. And

That they are equally emitted from every part of the body.

From whence it is ſelf-evident, that either the mechaniſm and properties of the Torpedo and thoſe of the Torporific Eel are widely different, or that Monſ. *de Reaumur* has amuſed the world with an imaginary hypotheſis: and, from my own

own obſervations, as well as the information which I have been able to obtain on this ſubject, I am diſpoſed to embrace the latter inference.

A very fallacious account of the medical effects of this Eel was lately communicated by one *Vander Lott*, a Surgeon, then in *Eſſequebo*, but now in *Demerary*, and publiſhed in *Holland*, in which the writer endows it with many medical properties, which no other perſon was ever able to diſcover, particularly for curing nervous fevers, head-achs, &c. but in this account the marvellous is ſo abundant, that the Writer, whom I have the honour of knowing, acquired no increaſe of reputation therefrom in this Colony. Mr. *Vander Lott* calls this fiſh a Conger Eel, though it has leſs affinity to that than any other ſpecies of Eels. The particles of the Torpo-

rific Eel probably produce ſimilar effects to thoſe of Electricity, to which they have a near affinity, not only in the ſenſations which they communicate, but in the medium through which they are conveyed; for which reaſon I have known the Eel frequently touched by paralytic patients, though I cannot ſay with much apparent advantage.

Theſe Fiſh are caught when young, and preſerved in large troughs, made for that purpoſe, and filled with water. Their uſual food is ſmall fiſh; and when theſe cannot be had, they are fed on earth-worms. But the *Blatta*, or Cockroach, is the moſt agreeable of all food to the fiſh: when one of theſe is thrown into the trough, the fiſh opens its mouth, and ſucks it in with great avidity and apparent pleaſure, ſucking being the uſual method by which it takes

takes its food. From its ſkin is excreted a ſlimey ſubſtance, which renders it neceſſary to change the water daily, or at leaſt every other day: for this purpoſe a cock is placed in the bottom of the trough, whence the water is drawn off, and the trough ſcowered. On theſe occaſions the fiſh is frequently ſuffered to lie motionleſs, without water, for ſeveral hours; but if he is touched in this condition, the ſhock communicated is not leſs violent than uſual. The manner of their generation is uncertain. Several attempts have been made to convey theſe Fiſh to *Europe*; but the quantity of freſh water requiſite to ſhift them as often as is neceſſary, together with the bruiſes which they muſt inevitably ſuſtain from the motion of the ſhip, have hitherto rendered them unſucceſsful.

Beſides

Beſides the Sea Crabs on the Coaſt of *Guiana*, there is a ſpecies of large Land Crabs living in the mud, in which their holes are made, and which cover all the ſhores of the ſea, and rivers near the ſea, at low water, when they appear in the greateſt numbers. The body is quadrangular, each angle being two inches and an half long. It is ſupported by a great number of legs, and has two large claws, in ſhape and ſize nearly reſembling thoſe of a Lobſter. Their ſhells, in different places, are either of a dull white, or a blueiſh colour. They have an agreeable, though ſomewhat earthy taſte, and are much eaten by all the inhabitants, whether Whites, *Indians*, or Negroes.

NEXT in order SNAKES fall under our consideration. Unhappily their immense number and variety constitute one of the principal inconveniencies of this country, and really endanger the safety of its inhabitants; and ought to humble the pride and arrogance of man, by convincing him, that all things are not made obedient to his will, nor created for his use.

One of the largest of this Class of Animals ever seen in *America*, was lately killed on the Plantation *Amsterdam*, in this Colony, belonging to Messrs the Heirs of *Peter Amyatt*, Esq; in *Amsterdam*. It measured thirty three feet some inches; and in the largest place, near the middle, was three feet in circumference. It had a broad head, very wide mouth, and large prominent eyes: From the middle it gradually tapered

to

to the tail, which was ſmall, and armed with two claws, like thoſe of a Dunghill Cock, and in the mouth was a double row of teeth. On the middle of the back was a chain of ſmall black ſpots, running from end to end; and on each ſide, near the belly, another row of ſpots, ſimilar and parallel to thoſe on the back; and below theſe ſeveral large black ſpots centred with white; the reſt of the body was brown. In its belly was found a ſmall Wirrebocerra, or Deer, ſo far diſſolved by the digeſtive liquor of the ſtomach, that no part of it would hang together. The viſcera were covered with a great quantity of fat, of which a conſiderable part was tried and preſerved for external application, for pains, bruiſes, &c. part of which was diſpenſed almoſt over the whole Colony. A ſmaller one was ſoon after killed on the Plantation *Dalgin*, lying on the oppoſite ſide of the river.

Their

Their bite is not venomous. When their ſtomachs are full, they lye ſtill till their food is digeſted: it was in that ſtate that both of theſe were ſhot in the head. They are ſaid to have the power of faſcinating, or attracting animals within their reach.

The *Commodee* is an amphibious Snake, about fifteen feet in length, and eighteen inches in circumference. The head is broad and flattiſh; and the tail is long, ſlender, and pointed. Their colour is brown, variegated on the back and ſides with cheſnut coloured ſpots. Their bite is not venomous; but they are extremely troubleſome, frequenting the creeks and ponds, and deſtroying Ducks, Geeſe, &c. When they encounter larger prey, the *Indians* ſay they kill it by inſerting their pointed tails into the *rectum*; hence the White Inhabitants call it the Sodomite Snake.

The

The Scarlet Snake is about five feet in length, and as large as a man's thumb, being all over of a lively ſcarlet colour, except the belly, where it is of a dull red. The head is flat and wide, and the tail ſlender. It is an amphibious Snake, and is frequently ſeen coiled upon the branches of trees at the ſides of rivers. I was lately in a boat with a Gentleman who ſhot one of them in that poſture through the middle, and it immediately fell into the river; but though one half of its body hung to the other only by a piece of ſkin, it had nevertheleſs the audacity to endeavour to enter the boat to revenge the injury, but was prevented by the oars, as one half of its body was become uſeleſs. The bite of theſe Snakes is eſteemed fatal.

The Fire Snake, as it is called, from the ſignification of its *Indian* name, is near four feet in length, and about the

ſize

ſize of a man's finger. It has a flat head, and a large mouth, with a ſingle row of ſmall teeth in each jaw, beſides two poiſonous fangs, and its tail is ſlender and pointed: the belly is of a dirty yellow, and the reſt of the body of a bright orange colour; and the back is ornamented with a row of black and white ſpots, diſpoſed in pairs from head to tail. This Snake is of all others the moſt dangerous to the *Indians*, both becauſe its bite is fatal, and becauſe it frequents places in which there are fires, from whence it has derived its name. The *Indians*, who commonly ſleep without covering, in hammocks wrought like a net, find it neceſſary to make fires near them during the night; and as theſe fires ſeldom fail to draw the Fire Snakes, if any are near, they are often expoſed, in getting up at night, to the danger of being bitten by them. But experience has taught them to examine carefully

carefully before they ſtep upon the ground, and if any of theſe Snakes are ſeen, they either put out the fire with water, if they have any within reach, as is uſual, or elſe throw ſome of the largeſt brands at a diſtance, which the Snake never fails to follow, either from the love of heat, or ſome innate propenſity.

The Woods Maſter, as the *Indian* name implies, is a ſhort thick Snake, about three feet in length, and five inches in circumference. The tail, if it may be ſo called, is but little leſs than the body, and ends bluntly. The colour of the belly is of a dull yellowiſh brown, and that of the back is a dark brown, chequered with black ſpots. The head and neck are wide and flat, with long looſe ſcales, which are erected at pleaſure, and make a frightful appearance. This Snake never flees from an enemy, and its bite is univerſally deemed fatal.

Maccou-

Maccourracourra, as it is called by the *Indians*, is a very beautiful, but fatal Snake to thoſe it bites. It is about three feet long, and ſomewhat ſmaller than a man's finger. The head is long and ſlender, and the upper jaw is armed with two long ſharp fangs. The colour of the head is ſcarlet, and the body is decorated with annular bands, or circles, of ſcarlet, purple, and milk white colours, diſpoſed alternately, from the head to the end of the tail.

The Whip Snake is about ſix feet long, and but little larger than the ſtem of a tobacco-pipe. Its belly is white, and its back is a light dull blue. Its body is tough and fibrous, like the laſh of a whip, but its bite is ſaid to be harmleſs.

The *Caruna* is a ſlender Snake, about two feet and an half long. It is largeſt near the middle, and the neck is very

ſmall; but the head is wide and flat, ending in an acute angle. The belly is whitiſh, the ſides are of a dark brown colour, and the back is covered by a a chain of large circular black ſpots, extending from end to end, and diminiſhing in ſize from the middle, in proportion with the body. Theſe Snakes frequent the houſes of the inhabitants during the rainy ſeaſon, and their bite is, by the *Indians*, ſaid to be fatal. Whether this be true, I am now uncertain; tho' I had once like to have experienced its effects; when ſitting in a chair one evening, and putting my hand behind me, I perceived ſomething unuſually cold, which I took to be the back of the chair, but ſoon after felt it move; when ſtarting up, I perceived I had laid my hand on one of theſe Snakes, who was coiled in a heap, with the head uppermoſt; and as the preſſure of my hand had been light, and the warmth

warmth agreeable, he probably intended no injury; had it been otherwiſe, the conſequence might have been fatal. I, however, did not exerciſe the ſame good nature towards him, but immediately killed him, before he quitted the chair. —Accidents of this kind are very frequent in this country, as the houſes are more open than thoſe of *Europe*, and the rains frequently drive the Snakes to take ſhelter in them, where they are often found under the tables and chairs, and even beds.

The *Ibonuna*, as it is called by the *Indians*, ſeems to be the *Cobra de Coral* of *Braſil*. It is between two and three feet in length, and about two inches in circumference, with a pointed tail, and white belly. The head is covered with white cubical ſcales, edged with black, and the back is adorned with red, black, and white ſpots, in alternate order. The

edges of the ſcales, which compoſe the red ſpots, are black, as are thoſe which compoſe the white. Its bite is deemed fatal, but its motion is ſlow. It is the common opinion here, that the more lively and various the colours of Snakes are, the more fatal is their poiſon; and there are ſome facts which countenance this opinion; though there are others which contradict it. This I take to be the Snake which *Condamine* calls *La Couleuvre Coral, remarquable par la varieté & vivacité de ſes couleurs.* Though none but the moſt looſe and imperfect ideas can be derived from the curſory manner in which he mentions almoſt every particular, and which appears to me very inconſiſtent with that curioſity, which could engage a man to ſeparate himſelf from his companions, in a foreign country, and traverſe the extent of a wide Continent, in queſt of natural knowledge.

It is ſaid that there are three kinds *Amphiſbænæ*, or Double-headed Snakes, in *Guiana*, though I have never had an opportunity of ſeeing but one kind, which is the ſmalleſt of the three. The form of this Snake is exactly cylindrical from end to end. It is about twelve inches in length, and about as large as the ſtem of a common tobacco-pipe, being of a dull blue colour. Its ſcales are ſo thin and ſmall, that a ſuperficial obſerver would think it covered only with ſkin. Its eyes are ſo ſmall, that they are not readily diſcovered, and the Snake is commonly reputed blind. Both ends of the Snake have the ſame external appearance, from whence it has been thought to have two heads, tho' only one mouth is diſcoverable, which is ſmall, and armed with very fine ſharp teeth, almoſt obſcured by the gums, and which are eaſier felt with a probe, or piece of wood, than ſeen. The bite of this

Snake is commonly thought fatal, with how much juſtice I cannot determine. They are frequently ſeen in the graſs, but their motion is very torpid, and they never move at the approach of any perſon. Whether Naturaliſts have been deceived concerning the other kinds of *Amphiſbænæ*, in different parts of the world, from the appearance of their tails, I am uncertain; the ſmallneſs of this Snake renders the deception eaſy; but in thoſe kinds which are larger, it ſeems almoſt impoſſible that every body ſhould miſtake a tail for a head; and yet, except theſe, there is no animal in nature, that is thought to have two heads *.

* Since theſe Sheets were ſent to the Preſs, I have received a particular Deſcription of a monſtrous *Amphiſbæna*, found near *Lake Champlain*, in *North America*, by an Officer in the *American* ſervice, who, with one of his Majeſty's Draughtſmen, was, during the late War, ſent to make a Survey of that Lake. They were previouſly informed

There are two kinds of Snakes in *Guiana*, called, by the *Indians*, *Labarra*, whoſe poiſon is, of all others, the moſt fatal: the one is large, and the other ſmall.

formed by the *Indians* of the exiſtence of theſe Serpents, one of which they killed near a Bay in *Lake Champlain*, which in the Maps of that Country has been ſince called *Double-headed Snake Bay*. This Serpent was a ſmall one of the kind, it being about fifteen inches in length, and largeſt near the middle, terminating in a ſlender tail. The body, at the other end, divided into two necks of equal ſize, to each of which was joined a perfect head, with two eyes, a large mouth and throat, a forked tongue, with teeth of the ſame ſpecies with thoſe of the Rattle-Snake. The colour of the heads was a dark brown, and the ſcales on the back and ſides were variegated with alternate ſpots of dark and reddiſh brown colours, in magnitude and diſpoſition reſembling thoſe of the Rattle-Snake. This Serpent was a perfect monſter, of whoſe exiſtence I ſhould ſtrongly doubt, did I not think the veracity of the Gentleman, from whom I have this information, and by whom it was actually killed, unqueſtionable.

The Large *Labarra* is about three feet and an half long, and near four inches in circumference at the middle, where it is largeſt, having a ſlender neck and tail, with a broad flat head, and a wide mouth, armed with two ſharp ſlender fangs, placed in the upper jaw. The colours of its ſcales nearly reſemble thoſe of a Rattle-ſnake, being of a light brown, variegated with lines of a dark brown, or cheſnut colour. This Snake is frequently ſeen coiled up under boards, fences, &c. nor will it attempt to eſcape when diſcovered, or even when attacked; and I have often ſeen them, when almoſt dead with bruiſes, biting the earth with exceſs of rage.

The Small *Labarra* is about fourteen inches long, and in ſize equal to the barrel of an ordinary ſwan's quill. It is covered with ſmall ſhining ſcales, of a dark

a dark brown colour, diverſified with white ſpots: the tail is ſmall and pointed, and the head is ſomewhat flat, and larger than the reſt of the body. An unhappy inſtance of the fatality of the poiſon of this Snake, lately happened on the Plantation *Conception*, in *Demerary*, now belonging to the Chevalier *Cornette de Venancourt*, an Officer of eminence in the ſervice of *France*, at the ſurrender of *Guardalupe*. The perſon who experienced the unhappy effects of this poiſon was a Negro Slave, a carpenter by trade, who, in endeavouring to turn a piece of timber, on which he was at work, was bit in the fore-finger of the right hand, by a Snake of this kind, concealed under the timber. The effects of the poiſon were inſtantaneous; the Negro had but juſt time to kill the Snake, when his limbs were unable to ſupport him, and he fell to the ground and expired in leſs than five minutes from

from receiving the wound. The blood, which had ſuffered a fatal diſſolution by the poiſon, exuding from the ends of the capillary ſanguine arteries, occaſioned the appearance of purple ſpots on every part of the external ſurface of the body, and hæmorrhages enſued from the noſe, eyes, ears, lungs, &c. I was not a witneſs to this accident, but have related it on the teſtimony of ſeveral perſons of undoubted veracity, who were preſent at the time it happened.

But a particular deſcription of all the Snakes in *Guiana* would fill a volume, and perhaps convey but confuſed inadequate ideas of the objects themſelves. I muſt deſire you, therefore, to ſuſpend your curioſity, on this ſubject, till I have the pleaſure of returning to *England*, when I ſhall preſent you with a collection of Snakes, which I am now making. The method which I uſe, in pre-

preſerving theſe Animals, may perhaps not be unworthy of a communication.

When the Snake is killed, it muſt firſt be waſhed clean, and freed from all filth and naſtineſs; then it is to be put into a glaſs of a proper ſize, the tail firſt, and afterwards the reſt of the body, winding it in ſpiral aſcending circles, and diſpoſing the back, which is always the moſt beautiful, outwardly. A thread, connected to a ſmall glaſs bead, is, by the help of a needle, to be paſſed thro' the upper jaw from within outwardly, and then thro' the cork of the bottle, where it muſt be faſtened: by this means the head will be drawn into a natural poſture, and the mouth kept open by the bead, whereby the teeth, &c. will be diſcovered: the glaſs is then to be filled with rum, and the cork ſealed down, to prevent its exhalation. A label, containing the name and properties of the Snake,

Snake, is then to be affixed to the wax over the cork; and in this manner the Snake will make a beautiful appearance, and may be thus preſerved a great number of years; nor will the ſpirits impair or change the luſtre of its colours.

To procure a ſufficient number of theſe objects, I give the Negroes, of all the neighbouring Plantations, a glaſs of rum for each Snake which they accidentally kill, and bring to me, whether it be fit for my purpoſe, or not, of which they are not able to judge. By this means, within theſe three months, which is the time that I have been employed in this undertaking, I have received near three hundred Snakes, among which were between fifty and ſixty different kinds; by which you will be able to form an idea of the number and variety of theſe animals in *Guiana*; many of which are extremely beautiful,

tiful, being ornamented with the moſt elegant figures, delineated by the Pencil of Nature, and the moſt lively colours, diſpoſed in all the various poſitions which the moſt pregnant fancy could imagine.

To diſcover the names and properties of theſe Snakes, I have recurred to the aſſiſtance of the *Indians*; tho' not with all the advantage which I expected. Many of the Snakes are wholly innominal, and their effects are very inaccurately known. Shew an *Indian* a Snake, and aſk him the conſequence of its bite, and if he is wholly ignorant of the matter, he will nevertheleſs anſwer, *Abwauga*, which ſignifies, that it is bad, or dangerous; if the word *Manſaga* is joined thereto, which puts it in the ſuperlative degree, I then judge he has ſome knowledge of it, and that it is reputed fatal. I am often, on theſe occaſions,

caſions, entertained by theſe people with many fables, which are ſo abſurd, that I am in no danger of being deceived by them. But the vulgar, in all nations, are expoſed to errors, and the *Indians* are all vulgar.

Among the Snakes which I have already collected, are ſeveral which have been already deſcribed by the Writers of the Natural Hiſtory of different parts of *America*; ſuch as, the *Abætulla* of *Surinam*; the *Ammodites* of *Braſil*; the Hunting Serpent, or *Jacaacanga*, of the *Braſilians*; the *Surinam* Aſp; the *Aſpic Cobra* of *Braſil*; the *Gril* of *Surinam*; the *Æſculapian Serpent* of *Braſil*; the Rattle Snake; the Spotted Orange-coloured *Dipſas* of *Surinam*; the *Dipſas* of *Berbice*, of a Pale-red colour, with Brown Spots; and the Blue *Dipſas*.

I AM now come to the conſideration of INSECTS, the loweſt, leaſt organized, but moſt numerous Claſs of Animals; different in appearance, and many of them varying the mode of their tranſitory exiſtence, either creeping or walking on earth, ſwimming in the watery element, or flying in the liquid regions of air, and occupying every chaſm in the Scale of Beings. Many of them, by their minuteneſs, are imperceptible to our organs of viſion; but more of them uſeleſs to the purpoſes of humanity; whilſt the greater number are noxious to man, and conſequently not created for his uſe.

Whoever will impartially ſurvey the various Orders of created Beings, and, uninfluenced by the Precepts of Education, or the Arrogance of Humanity, will conſider the principles by which they

they are actuated, and the properties with which they are endowed, will find abundant cauſe to believe, that every part of animated nature was created for its own happineſs only, and each allowed to appropriate to itſelf ſuch a portion of our common bleſſings, as is adequate to its power of acquiſition, or enjoyment, and conſequently, that man, who exults in the flattering idea of univerſal dominion, and vainly imagines that all Terreſtrial Beings are created for his uſe, like the Tiger, derives ſuperiority only from his ſuperior power and ſagacity.

Has God, thou fool, work'd ſolely for thy good,
Thy joy, thy paſtime, thy attire, thy food?
Who for thy table feeds the wanton fawn,
For him as kindly ſpread the flow'ry lawn.
Is it for thee the lark aſcends and ſings?
Joy tunes his voice, joy elevates his wings.
Is it for thee, &c. POPE.

Among

Among the Claſs of Inſects, many Animals are found, which, by their paucity of organs, and ſimplicity of ſtructure, approach ſo nearly to Vegetables, that it is difficult to determine where the Animal ends or Vegetable begins: And this imperceptible gradation is obſerved through all the Productions of Nature, from reaſoning Man, to the ſcarce animal Polypus; and from the Senſible Plant to the ſcarce vegetable Moſs, all are exquiſitely adapted to effect the divine Purpoſe which influenced their creation.

As the mechaniſm of Inſects is leſs complex, ſo their actions are thought leſs ſagacious than thoſe of Quadrupedes; yet even this inferior Claſs of Beings affords examples of ſagacity worthy of human imitation. The Hoſtile Artifice of the Spider, the Provident Induſtry of the Ant, and the Order and

Oeconomy of a Republic of Bees, have long been objects of admiration: and that principle which regulates the Actions of Brutes, and which is distinguished by the scarce intelligible name of Instinct, is more vigorous, of readier use, and less fallible, than the boasted Reason of Man, which often betrays the Human Species to Errors, greater than were ever observed among the Brute Creation.

The multitude and variety of Insects is incredible in *Guiana*, where the warmth and humidity of climate facilitate their production, and where their longevity is unimpaired by winter, or their activity chilled into a torpid lethargy for one half of the year. Here a *Swammerdam* or *Reaumur* might find ample employment, for an age of industry, in describing the various Species of this Class of Animals. For me, I am

really

really discouraged from undertaking so extensive a task; for the due execution of which I have neither the requisite patience, leisure, or inclination. To describe the Proboscis, Antennæ, or Pinnæ of a Flea; to delineate the Colours of a Butterfly, or the Mechanism of a Caterpillar, would to me be tedious. That "Natura nunquam magis quam "in minimis tota est," as *Pliny* says, may be, in some measure, true; but I have not yet studied myself into a habit of investigating the minutiæ of Nature, and shall therefore only take a cursory review of the Insects of this Country, and with all possible brevity describe a few of those which are most worthy of attention.

Animals of the BEETLE Tribe in *Guiana* are extremely numerous, and so different and uncommon in their formation, that it seems as if Nature sported

in variety. But as theſe have nothing but the oddity of their mechaniſm which can recommend them to notice, being neither noxious nor uſeful to man, I ſhall leave them in obſcurity.

The *Blatta*, or COCKROACH, is a Species of Fly, about an inch in length, having a reddiſh brown colour, two long feelers, ſix legs, with forked claws, and two tender ſoft wings. They are a very troubleſome and deſtructive inſect, devouring not only victuals, but cloaths, books, &c. nor is it poſſible to prevent their getting, when young, into trunks, cheſts, &c.

BUTTERFLIES are here extremely numerous and various, and their wings are elegantly variegated with the moſt lively and beautiful colours. I have ſeen not leſs than fifty different kinds of Diurnal Butterflies in this country,

try, and the Nocturnal are ſtill more numerous. But as theſe inſects have nothing remarkable but the variety of their colours, and as verbal deſcriptions can convey but very looſe and inadequate ideas of theſe particulars, I ſhall not deſcend to a minute account of them. — There are many perſons advantageouſly employed in this Colony, in catching and preſerving theſe inſects for ſale in *Europe*. To preſerve the Butterfly, when caught, its body is lightly touched with a hair pencil, dipped in ſpirit of turpentine, and it is then fixed by two or three pins, ſtuck through its body, to a box, among a variety of others, of different kinds, diſpoſed according to their colours, in elegant order. The ſpirit of turpentine is neceſſary, not only to preſerve the body from putrefaction, but to prevent its being devoured by the Ants, which in this country would otherwiſe happen.

The BEES of *Guiana* are but little larger than the common Houſe-fly in *England*. Their colour is black, and they are armed with ſtings, which they ſometimes exerciſe upon the Negroes, who, in revenge, eat as many as they can catch. They depoſit their Honey in the cavities of hollow trees, in the woods. This Honey has a dark brown colour; a ſweet, but leſs agreeable taſte, than the *European*, and leaves a ſmall bitter behind. It is found in large quantities, and is almoſt as fluid as olive oil. The colour of the wax is a dirty browniſh black, and its ſubſtance ſomewhat ſofter than the yellow wax of *Europe*, having a ſweet fragrant ſmell.

In looking over *Lloyd's Evening Poſt*, from the 3d to the 5th of *October*, 1763, I obſerved an article, intimating that the Society of Arts, &c. had received ſome of this Wax from *Surinam*, and that many

many of its Members thought it a factitious production, intended, by ſome *Surinam* wag, to impoſe on the Society; tho' it has been ſomewhat imperfectly deſcribed, many years ſince, by *Père Labat*, in his *Voyages, &c. en Guinée & à Cayenne*; who, if I miſtake not, recommends it for an ingredient in plaiſters, and other dreſſings; and for this purpoſe I have ſometimes known it uſed by the Surgeons in this Colony, as a ſuccedaneum to the yellow wax, but only when that could not be procured, as has ſometimes happened.

This wax is uſually formed by the *Indians* into round balls, weighing about two pounds each; and a ball of this wax is often bought from the *Indians*, near the ſea, where it is in the greateſt plenty, for a fiſh-hook. The *Indians* have a method of purifying the wax, and rendering it of a lighter colour, by

melting, ſtraining, and boiling it in water and wood-aſhes. From this wax they make all their candles, by dipping long wicks of cotton into it, and then rolling them into balls, tho' the light they give is not ſo clear as the tallow or wax candles of *Europe*.

ANTS in *Guiana* are very numerous, various, and troubleſome. They form themſelves into a kind of republic, governed by laws, like thoſe of *Europe*: but that provident induſtry with which the latter provide for their ſuſtenance during winter, is unneceſſary for the Ants of *Guiana*, who conſequently lead a life of more eaſe and luxury. The largeſt ſpecies of Ants in this country are black, and about an inch in length. They build their neſts very high and capacious; but in good weather, in the day time, they almoſt cover the trunks and

and branches of fruit trees, and their bite is extremely painful.

The Flying Ants of *Guiana* are in ſize almoſt equal to the former. The head is triangular, with two antennæ, or feelers. The body conſiſts of two parts, connected by a ſmall ſtring: from the forepart, or thorax, ariſe the legs, which are ſix in number, and each has three joints. Each Ant has four thin tranſparent wings, of a reddiſh brown colour. Their habitations are ſubterraneous, like thoſe of moles; but in the wet ſeaſons, when the rains have penetrated far in the earth, they are forced to quit their cells, which are drowned in water, and eſcape by their wings. At theſe ſeaſons they are often ſeen in flocks, which obſcure the air, and render it difficult to breathe where they come, which is always towards the houſes, for ſhelter.

Wood-

Wood-Ants, or Wood-lice, as they are called by the *Engliſh*, and *Poux de Bois* by the *French*, are a ſmall Ant, about two lines in length, and of a whitiſh brown colour, and a very deſtructive inſect, eating holes in wood, deſtroying the poſts of houſes, devouring cloaths, books, &c. They are eaten, with great avidity, by domeſtic fowls, birds, and lizards, tho' when bruiſed they afford a very ſtrong, volatile, diſagreeable ſmell. They form a kind of arched roads, about half an inch wide, concave, and ſomewhat flattiſh; theſe are often built on the floors and cielings of houſes, extending many hundred feet in length, with a variety of ſerpentine windings. The convex walls of this extenſive habitation are compoſed of a whitiſh brown incruſtated ſubſtance, which is eaſily deſtroyed. Within its cavity the Ants live, in a regular, well-ordered ſociety; and when any breach

is

is made in this wall, every inhabitant joins in the common labour of repairing the breach, which is effected with surprizing rapidity. As soon as one of these habitations is discovered, a hole is immediately made in its walls, and the cavity filled with arsenic, which destroys the Ants, and thereby prevents the mischief which would otherwise ensue. In the woods, however, they frequently inhabit large round nests, divided into a variety of cells, by thin incrustated shell-like partitions. These nests are many feet in circumference, and each contains millions of these insects. They are brought from the woods, and broke among the poultry, who devour the Ants with great avidity.

Among the FLIES of *Guiana*, there are two species of Fire Flies. The largest is more than an inch in length, having a very large head, connected with

with the body by a joint of a particular ſtructure, with which, at ſome times, it makes a loud knock, particularly when laid on its back. The Fly has two feelers, or horns, two wings, and ſix legs. Under its belly is a circular patch, which, in the dark, ſhines like a candle; and on each ſide of the head, near the eyes, is a prominent, globular, luminous body, in ſize about one third larger than a muſtard-ſeed. Each of theſe bodies is like a living ſtar, emitting a bright, and not ſmall light, ſince two or three of theſe animals, put into a glaſs veſſel, afford light ſufficient to read, without difficulty, if placed cloſe to the book. When the Fly is dead, theſe bodies ſtill afford conſiderable light, tho' it is leſs vivid than before; and if bruiſed, and rubbed over the hands or face, they become luminous in the dark, like a board ſmeared with *Engliſh Phoſphorus*. They have a red-

diſh

diſh brown, or cheſnut colour, and live in rotten trees in the day, but are always abroad in the night.

The other kind are not more than half as large as the former, and their light proceeds from under their wings, and is ſeen only when they are elevated, like ſparks of fire, appearing and diſappearing at every ſecond. Of theſe the air is full in the night, tho' they are never ſeen in the day. They are common not only in the ſouthern but northern parts of *America*, during the ſummer.

Inſects of the GNAT Tribe are extremely numerous and troubleſome in *Guiana*. They are called *Muſkitoes*, and are of two or three kinds, differing only in degrees of magnitude. They are found chiefly in the marſhy low lands near the ſea, in the woods, which

are

are rendered uninhabitable by the multitude of these insects, until the trees are cut down, and the wind has free access; upon which they retire farther to the woods. In these places they appear like clouds, filling the air with a buzzing noise, and their bite is extremely painful. When the *Indians* or White Inhabitants are obliged to sleep in these places, which sometimes happens in travelling, or fishing on the seashore, they make a great smoak under their hammocks, in which they wrap themselves all over, and think themselves happy in enduring the trouble of being almost suffocated, to avoid being devoured by these insects.

CATERPILLARS are here extremely numerous and various; but I shall not enter into a particular description of them.

The

The PALM TREE WORM is common not only in *Guiana*, but the *Carribbee* Iſlands. It is bred in the heart of the Cabbage-tree after it is cut down. They are near as thick as a man's finger, and two or three inches in length. The head is black, and the body appears like a piece of yellowiſh fat, contained in a fine tranſparent ſkin. They are eſteemed a delicate morſel, not only by the aboriginal Natives, but by many of the White Inhabitants, particularly the *French*, who roaſt them before the fire, and mix them with crumbs of bread, ſalt, and pepper.

SPIDERS are very numerous in *Guiana*, and of ſeveral ſpecies. The largeſt, and only one which I ſhall deſcribe, is here by moſt people miſtaken for the *Tarantula*, a native of that part of *Italy* called *Apuglia*, and of which there is a very minute deſcription in the Memoirs

moirs of the Royal Academy of Sciences at *Paris*. The Spider of *Guiana* is divided into two parts; the lower, or belly part, is of an oval form, more than an inch in length, and in circumference equal to a man's thumb, being of a dusky colour, and covered with either grey or brown hairs. It is connected at one end to the upper part, which is flat, and almost square, being about five lines in width, and of a black colour, and hairy. In the centre is a small cavity, at which several lines, running from the corners of each angle on the surface, meet. To this part are connected five pair of legs, about two inches long, each having four joints, and being armed at the end with a pair of red nippers. The eyes are small, black, and shining. From the upper jaw proceed two chesnut coloured semilunar sharp teeth, about half an inch in length, and concave, until within half

a line

a line of the point of the tooth, where the concavity ends, as the extreme minuteneſs of its point requires ſolidity. Near the point is a ſmall external lateral hole, communicating with the internal cavity of the tooth. Through this hole, on preſſing the tooth, the poiſon exudes, which is a fine white tranſparent liquid, appearing like a very ſmall drop of alcohol, and adhering to the orifice of the lateral hole. The bite of this Spider is deemed fatal; but I never knew of any animal who experienced its effects. They form ſtrong thick webs, not much larger than themſelves, commonly between the branches of a Coco-nut or Plantin tree. Their eggs are depoſited in a white cloth-like bag, which is placed under the Spider's belly, who, at certain ſeaſons of the year, carries it conſtantly about until the brood is hatched.

The SURINAM SCORPION is of a ruſſet colour, interſperſed with a variety of black ſpots, and is near ſix inches in length. From the neck proceed two claws, about an inch in length, each having three articulations, and being armed at the extremity with a pair of ſlender forceps. Beſides the claws, it has four pair of legs, the longeſt of which are near the tail. The tail has ſix joints, and is forked at the extremity, and armed with two ſmall, crooked, horny, and pointed ſtings, the uppermoſt of which is double the length of the other. When the Scorpion runs, its tail is uſually coiled up. He uſually holds by his claws while he ſtings with the tail. The wound is venomous, and extremly painful, tho' not fatal, as I once obſerved in a Negro wench, who was ſtung by one of theſe animals in the right ſide, a little below the ſhort ribs. The wound was almoſt imperceptible,

ceptible, and without any apparent tumefaction; but the wench, whom I saw within a few minutes after the accident happened, which was in *November* 1763, complained of being excessive cold, tho' the weather was very hot, and had a violent shivering like the paroxysm of an ague, with a quick, weak, tremulous, and sometimes intermitting pulse, sometimes yawning and stretching, and frequently gasping for breath. I was wholly unacquainted with the nature of the poison, or its antidotes, having been but a few months in this part of *America*. Warm cardiacs, however, seemed to be indicated by the symptoms which externally appeared, by which alone my conjectures were governed, as she had lately been purchased from a slave ship, and was unable to communicate her complaints in any language intelligible to an *European*. I therefore directed the side, which was consider-

ably tumified, to be embrocated with warm olive oil, and gave her internally, every hour, a bolus *ex Theriacâ Androm. cum Camph.* with frequent draughts of a decoction from *Virginia Snake-root*, *Seneca*, and *wild Valerian*. This was about noon, and the feveriſh heat ſoon became conſiderably augmented; but in the evening all the ſymptoms were ſubſided, and the next morning ſhe returned to her labour. Whether this treatment was of any ſervice I am unable to determine, having never had an opportunity of ſeeing, or even hearing, of a ſubſequent caſe of this kind.

The SCOLOPENDRA, CENTIPEE, or CENTIPEDES, tho' its name implies an animal with an hundred legs, has yet only forty; that is twenty on each ſide, diſpoſed in pairs. Its body is about ſix inches in length, and five lines in breadth, flattiſh, of a brown copperiſh colour,

colour, conſiſting of twenty articulations, correſponding with each pair of its legs. It moves with equal velocity either backward or forward, and ſeems to have an head at each end, with a pair of forked hairy feelers; but the head, properly ſo called, is guarded by a pair of ſtrong ſharp forceps. Its bite is venomous, and extremely painful, but not fatal. Theſe, as well as the Scorpions, are found not only in the fields, but in the thatch of houſes, among books, boxes, and furniture.

The CHIGGER, or CHIQUE, as it is termed by the *French*, is a ſmall duſky inſect reſembling a Flea, but ſomewhat ſmaller, and happily it is incapable of leaping, or the Torrid Zone would be uninhabitable. This animal gently inſinuates itſelf into the ſkin of the toes and feet, exciting a moderate itching and redneſs: this, to a perſon

familiarized with the country, is sufficient for their discovery and consequent extraction; but when this does not happen, and the insect is suffered to continue under the skin, it soon fabricates a thin, membranous, capsula, or bag, in which it incloses itself, leaving only a small opening for its head. In this bag it deposits its eggs, which are numerous, and resemble nitts; these daily increase in number and magnitude, and in a few days the bag is distended to the size of a large pea, by which time the nitts begin to hatch, and if not extracted they form other bags, and at length produce malignant ulcers, &c. But in Whites they are seldom suffered to arise to this maturity. After the bag is formed, it ought to be extracted without breaking, otherwise some of the nitts will be left in the wound, and become Chiggers. When the bag, by any accident, happens to break, it is usual to fill the

wound

wound with aſhes of tobacco, tho' that of wood is equally effectual in deſtroying the ova of theſe inſects. They chiefly affect the ſlaves, who go barefoot, and whoſe feet ſuffer ſuch terrible ravages, that they are often lamed by them. In theſe caſes, a cataplaſm of Caſtile-ſoap and train-oil is the moſt effectual application for their deſtruction. There is a ſpecies of theſe animals that are venomous, and create ſwellings and inflammations; happily, however, they are uncommon.

SHELLS, which make a conſiderable part of the Natural Hiſtory of ſome Countries, will have little ſhare in that of *Guiana*, where the coaſt is low, and the ſhores muddy, the whole of their extent; ſo that whatever ſhells are thrown on ſhore are buried in the earth. Sometimes, indeed, a ſmall patch of ſand is found on the ſhore, with Shells,

but theſe are not ſo conſiderable for their beauty, number, or variety, as to deſerve a particular deſcription.

Thus, my dear Brother, I have briefly deſcribed the moſt curious Animals in the different Claſſes of Quadrupedes, Birds, Fiſh, Reptiles, and Inſects; and in my next ſhall endeavour to gratify your curioſity relative to thoſe of the Human Species; and aſſure yourſelf, that I ſhall improve every future occaſion of teſtifying the ardent affection with which I have the happineſs to be,

Dear Brother,

Your, &c.

LET-

LETTER III.

Rio Demerary, Oct. 25, 1766.

Dear BROTHER,

AFTER an unavoidable interruption of ſeveral weeks, I am again at leiſure to reſume the continuation of my Eſſay on the Natural Hiſtory of this Country, and am happy in finding by yours of the 5th of *September*, which I had yeſterday, the pleaſure of learning that my former Letter has contributed to your entertainment. Natural Hiſtory, to uncultivated minds, has fewer charms than the Hiſtory of Human Affairs, which is connected with a ſurprizing diverſity of inci-

incidents, that to the greateſt part of mankind proves more agreeable, tho' leſs uſeful.

Purſuant to the order which I have preſcribed to myſelf, I am now, after having deſcribed the ſeveral kinds of inferior Animals, to give you an account of thoſe of the Human Species, evidently the firſt Order of ſublunary Beings. In this I am ſenſible that I have inverted the order uſually followed by Naturaliſts; but have ſubſtituted one more natural, and expoſed to fewer inconveniencies.

To deſcribe Man, who depends on almoſt every other animal and vegetable production for his ſubſiſtence, and whoſe wants are more numerous than thoſe of any other terreſtrial being, without premiſing the means which his Creator has provided for ſupplying theſe wants, appears

pears to me unnatural: But in the preſent diſpoſition of things, after having previouſly conſidered the ſeveral claſſes of inferior productions, their application to the wants of humanity, and the ſervices which the Human Species derive from them, will naturally appear in the Hiſtory of Mankind.

The Inhabitants of *Guiana* (I mean thoſe of the Human Species) are either Whites, Blacks, or the Reddiſh-brown aboriginal Natives of *America*. The promiſcuous intercourſe of theſe different people, has likewiſe generated ſeveral intermediate caſts, whoſe colours immutably depend on their degree of conſanguinity to either Whites, *Indians*, or Negroes. Theſe are divided into *Mulattoes*, *Tercerones*, *Quarterones*, and *Quinterones*, with ſeveral intermediate ſubdiviſions, proceeding from their retrograde intercourſe: all which ſufficiently demon-

demonſtrate, that neither promiſcuous generation, nor change of climate, can annihilate the natural characteriſtic diſtinctions of theſe different people. Blacks and Whites, however, are not properly natives of this, or any other part of *America*, having been tranſplanted hither, the former from *Europe*, and the latter from *Africa*. I ſhall, however, in a ſubſequent Letter, ſubjoin an account of them; but in this ſhall confine myſelf to the *Aborigines* of *Guiana*, who, as well as all the Natives of *America*, are commonly, tho' improperly, called *Indians*.

The *Indians* of *Guiana* are divided into ſeveral tribes, differing in the degrees of their progreſſive advancement from the ignorance and ferocity of a ſtate of nature, from which they are but little removed. Thoſe who inhabit the far interior parts of the country are

but little if at all known; and indeed there are only four Nations within the confines of *Dutch Guiana*, with whom the *Europeans* have any intercourſe; theſe are the *Carribbees*, the *Accawaus*, the *Worrows*, and the *Arrowauks*. The latter are a friendly, hoſpitable people, and from the vicinity of their reſidence, and conſtant intercourſe with the Whites, their manners are better known than thoſe of any other tribe; and as they all agree in many particulars, in deſcribing the three former nations, I ſhall only mention their characteriſtic diſtinctions and peculiarities, confounding the leſs ſingular particulars, in their Religion, Manners, and Cuſtoms, with thoſe of the *Arrowauks*, for the ſake of brevity.

The *Carribbees* are the moſt numerous, brave, warlike, and induſtrious of all the known tribes inhabiting *Guiana*.

They-

They reſide chiefly on the ſea-coaſt between *Eſſequebo* and the Great River *Oronoque*. They are of a middle ſtature, well made, with regular and agreeable features. They have a ſprightly vivid countenance, and their complexion is the whiteſt of all the four tribes, the *Arrowauks* excepted. Their language is manly, and very articulate, but is pronounced with a degree of ſharpneſs and vivacity correſponding to their natural diſpoſition. They practiſe polygamy, and have War-captains, tho' no Sovereigns, or Magiſtrates. There is no diviſion of land among them, every one cultivating in proportion to his wants and induſtry; and as they are leſs indolent than the other tribes, they till much more ground than any of them, tho' a ſmall portion ſuffices even for them, as they cultivate very little except Plantins and *Caſſava* or *Manioc*; from theſe they make bread; and from

theſe,

theſe, by fermentation, they make a liquor ſomewhat like ale, of which more hereafter. They live contiguous to each other, and by blowing a ſhell, a thouſand of them may be collected in half an hour. They paint immoderately, chiefly with *Arnotta*, or *Roucou*.

Wars, hunting, and fiſhing are the chief employments of the men; agriculture and domeſtic concerns are abandoned to the women and children, who likewiſe ſpin cotton by the hand, but ſlowly, for want of a proper machine; from this they weave hammocks, but in a very ſlow and tedious manner, for want of inſtruction to employ their labour to advantage. Their manner of weaving is by winding the cotton, when ſpun, round two ſmall wooden ſticks of ſufficient length, placed at about ſeven feet diſtance from each other, diſpoſing the threads ſingly, parallel and

conti-

contiguous to each other, till they extend a ſufficient width, which is uſually ſix or ſeven feet: the threads thus diſpoſed ſerve for the warp: they then wind a quantity of cotton on a ſmall pointed piece of wood, and begin their weaving at one end, by lifting up every other thread of the warp, and paſſing the pointed ſtick with the woof under it: this they do until they have gone through the whole width of the warp, and then return in the ſame manner, taking up thoſe threads which they miſſed before, and preſſing the threads cloſe together. When the weaving is compleated, the hammock is ſtained with juice of the bark of trees, diſpoſed ſo as to form various figures, which are red, and ever after indelible. The trees which yield this juice, I am informed, are the Wallaba and Red Mangrove. To weave a hammock in this manner requires the labour of ſeveral months,

and

and therefore all the other tribes, who have leſs induſtry, content themſelves with hammocks made either from cotton yarn, or the twiſted bark of the Samee tree, connected by net-work. They likewiſe form the teeth of fiſh into ſmall cylinders, which they perforate with a ſmall hole from end to end, and then cut the cylinder into many ſmall pieces, which compoſe ſo many white, ſmooth, ſhining beads, which are ſtrung, and worn for ornament.

Their arms are either bows and arrows, poiſon arrows, which are blown thro' a hollow reed, or large heavy clubs, made of iron-wood, &c. which are large at one end, with ſharp edges, with which they divide the ſkull of an enemy at a ſingle blow. They have, however, uſually lived in harmony with the neighbouring tribes, until of late they have been corrupted by the *Dutch*, and

excited to make incurſions on the interior *Indians*, for the ſake of making priſoners, who are afterwards ſold to the inhabitants of the *Dutch* Colonies. Upon theſe occaſions they ſurround the ſcattered houſes of theſe *Indians*, in the night, while they are ſleeping without apprehenſion of danger, and make them all priſoners: the men, however, who would be apt to eſcape after they were ſold to ſlavery, are uſually put to death, while the women, and children of both ſexes, are reſerved for ſale.

The *Carribbee Indians* are at perpetual variance with the *Spaniards*, and frequently commit hoſtilities on their ſettlements at the River *Oronoque*. They retain a tradition of an *Engliſh* Chief, who many years ſince landed amongſt them, and encouraged them to perſevere in enmity to the *Spaniards*, promiſing to return and ſettle amongſt them,

them, and afford them aſſiſtance; and it is ſaid that they ſtill preſerve an *Engliſh* Jack, which he left them, that they might diſtinguiſh his countrymen. This was undoubtedly Sir *Walter Raleigh*, who, in the year 1595, made a deſcent on the Coaſt of *Guiana*, in ſearch of the fabulous Golden City of *Manoa del Dorado*, and conquered Fort *Joſeph*, on the River *Oronoque*.

At the late inſurrection of the Slaves in the Colony of *Berbice*, theſe *Indians* were engaged, by the Governor of *Eſſequebo*, to fight againſt the Rebel Negroes, many of whom they killed, as appeared by the number of hands which they brought away, and for which they received a conſiderable reward. But an adherence to truth obliges me to inform you of a circumſtance relative to this expedition, which I am perſuaded you will read with diſguſt; this is, that

they ate the bodies of thoſe Negroes whom they killed on this occaſion: an action, which is conſidered by *European* nations as ſo horrid and unnatural, that the very exiſtence of Cannibals has been lately denied by ſeveral modern Compilers of Hiſtory, notwithſtanding the repeated atteſtations of Travellers to the contrary. For perſons, however, who have never quitted their native country, to determine concerning the manners of diſtant unknown nations, and, on the ſtrength of plauſible appearances, to impeach the veracity of Travellers, and poſitively deny thoſe things which, at moſt, they are but permitted to doubt, is a culpable temerity, which well deſerves reprehenſion. I muſt, however, do theſe *Indians* the juſtice to declare, that they never eat any of the human ſpecies, except their enemies killed in battle, to which they think they have as good a right as thoſe animals

animals by whom they would otherwiſe be eaten. But you will doubtleſs think it unnatural for any animal to devour thoſe of its ſpecies, even when neceſſarily killed in ſelf-defence; and in this I am of your opinion; tho' I am ſenſible that we have been educated in a ſtate of civilization, ſo different from that of Nature, that we are but ill able to determine what is, or what is not natural. It is certainly more unnatural to kill each other by unneceſſary wars, than to eat the bodies of thoſe we have killed: the crime conſiſts in killing, not in eating, as the worm and vultur teſtify, that human fleſh is by no means ſacred. But tho' civilized nations abhor eating, they are familiarized to the cuſtom of killing each other, which they practiſe with leſs remorſe than the Savages. But cuſtom is able to reconcile the mind to the moſt unnatural objects. What but habitude and cuſtom could

enable us to ſurvey, without an involuntary horror, the mangled carcaſes of inoffenſive animals, expoſed in a *London* market, who have been killed to gratify our appetites, and whoſe care and ſollicitude for the preſervation of life, demonſtrates that they enjoyed a degree of happineſs therein, of which at leaſt it is cruelty to deprive them. Man's right over the lives of ſubordinate animals I will not diſpute; the apparent difference in the mechaniſm of the maſticatory and digeſtive organs of carnivorous and granivorous animals, evidently demonſtrates, that Nature deſigned ſome for the prey of others: But mankind have a natural capacity for ſubſiſting indiſcriminately, either on animal or vegetable food; and numerous inſtances teſtify, that the latter is moſt conducive to health and longevity; and therefore not only humanity, but ſelf-intereſt, conſpire to engage us at leaſt to abridge the quantity

quantity of animal food, which at preſent we devour with ſo much avidity.

Monſ. *de la Condamine*, I think, cannot allude to the *Carribbee Indians*, when he mentions a nation of Cannibals * North of the River of the *Amazons*; and yet I have never heard of any other tribe of *Indians* in *Guiana*, who eat human fleſh.

The *Dutch* maintain a traffic with the *Carribbee Indians* for canoes of different magnitudes, from ſeventy to ten feet in length, which are formed out of ſingle trees, rendered hollow by fire; for cotton hammocks, ſpun and

* Car quoiqu'il n'y ait pas aujourd'hui d'Anthropophages le long des bords du Maranon, il y a encore dans les terres, particulierement du côté du Nord, & en remontant l'Yupara, des Indiens qui mangent leurs priſonniers. — Vide *Relation abregée d'un Voyage fait dans l'Interieur de l'Amerique, &c.*

woven in the manner I have already related; for wax, manufactured by the black bees, before deſcribed; for Balſam *Capoiba*, or *Capivi*, which they bring in large gourds; and for ſeveral kinds of curious woods; but chiefly for ſlaves, which they are encouraged to make, as I have juſt related. In return for theſe, the *Dutch* give them fire-arms, pieces of *India Salempores*, with which they cover their nudities, hatchets, knives, fiſh-hooks, combs, and ſmall looking-glaſſes, together with beads of red coral, on which they put an immoderate value; and glaſs-beads of different colours, which are worn, in different forms, by the females, who are become ſomewhat luxurious.

The *Worrows* are a nation of *Indians* inhabiting only the Sea-coaſt, chiefly between *Demerary* and *Surinam*, tho' ſome of them are found on both ſides of

of the River *Oronoque*. Their ſtature and ſize exceeds that of the *Carribbees*; the colour of their ſkin is much darker, and their features are more irregular and diſproportionate; the females being peculiarly diſagreeable. They inhabit only the low, wet, marſhy places, adjacent to the ſea, and live chiefly on crabs and fiſh. They are a ſlovenly, timid, indolent people; but withal patient, contented, and happy. Many of them have not ſufficient induſtry to procure the means of purchaſing cloth to cover their nakedneſs, contenting themſelves either with the bark of trees, or the reticular covering of a coco-nut or cabbage-tree for that purpoſe; yet they are often ſeen with thin oval plates of ſilver hanging from their noſes, to which they are connected by two horns, that embrace the cartilaginous diviſion of the noſtrils. Their language is diſſonant, and the articulations very indiſtinct,

ſtinct, being pronounced with a ſlow, diſagreeable tone. Their Phyſicians, or rather Prieſts, are believed to have a particular influence with Evil Spirits, above thoſe of any other tribe.

The *Accawaw Indians* are the moſt interior tribe that have any communication with the *Europeans*, living near the ſource of the Rivers of *Eſſequebo*, *Demerary*, and *Berbice*. Their ſize and ſtature pretty much reſembles that of the *Worrows*, but their complexion is lighter, and their features are leſs diſagreeable, and they are all diſtinguiſhed by a circular hole, about half an inch diameter, made in the lower part of the under lip, in which is inſerted a piece of wood, of equal ſize with the hole, which is cut off externally almoſt even with the circumjacent ſkin; while the inner end preſſes againſt the roots of the fore teeth. The air and behaviour of theſe

theſe people is grave and reſerved, and they have an unuſual degree of art and cunning. Their language is ſolemn, and its articulations diſtinct, but harſh. They are not numerous, but are greatly feared by their neighbours, on account of their art in the preparation of Poiſons of the moſt deleterious kind. The Arrow-poiſon, which they compound, is particularly fatal; and beſides that, they have ſeveral other kinds of Poiſon, which, given in the ſmalleſt quantities, produces a very ſlow, but inevitable death, particularly a compoſition which reſembles wheat-flour, which they ſometimes uſe to revenge paſt injuries, that have been long neglected, and are thought forgotten. On theſe occaſions they always feign an inſenſibility of the injury which they intend to revenge, and even repay it with ſervices and acts of friendſhip, until they have deſtroyed all diſtruſt and apprehenſion of danger

in

in the deſtined victim of their vengeance. When this is effected, they meet him at ſome feſtival, and engage him to drink with them, drinking firſt themſelves to obviate ſuſpicion, and afterwards ſecretly dropping the poiſon, ready concealed under their nails, which are uſually long, into the drink. Theſe accidents, however, are not frequent; and that they ſhould ſometimes happen is not ſo ſurprizing, as that they do not oftener intervene in a ſtate in which there is no judicial puniſhment for crimes, nor any other ſatisfaction for injuries, but what is procured by violence. To violate the chaſtity of a wife, is almoſt the only injury that draws down this fatal vengeance. They frequently make incurſions on their interior neighbours, like the *Carribbees*, for ſlaves; and the vicinity of their reſidence particularly expoſes them to reprifals from thoſe injured tribes. To

prevent

prevent this, all the avenues to their houſes are guarded by ſharp pieces of hard wood, planted in the earth, and poiſoned, except only one obſcure winding path, which they uſe themſelves, and make known to their countrymen by private marks. With the *Dutch* they barter ſlaves, Balſam *Capivi*, a Balſam called *Arrecocerra*, already deſcribed, the roots of *Hiarra*, for fiſhing, oil of *Caraba*, which is collected in large gourds, and pretty much reſembles, in colour and conſiſtence, the Palm-oil of *Guinea*, but has a diſagreeable ſmell; different kinds of curious woods, as Letter-wood, Ducolla-bolla, ebony, &c. likewiſe Vanells, *Arnotta*, *Caſſia fiſtularis*, *Canella alba*, wild Nutmeg, wild Cinnamon, Monkies, Parrots, Parroquets, &c. of all which an account has already been given. In return for theſe they receive the ſame things which are furniſhed to the *Carribbees*.

Beyond

Beyond theſe *Indians* are ſeveral tribes who appear entirely naked, not covering even thoſe nudities, which Nature ſeems to have taught the inhabitants of other countries to conceal; but theſe *Indians* are never ſeen by the *Europeans*, except ſuch only as are ſold to ſlavery.

The laſt of the four tribes of *Indians*, of which I propoſe giving you an account, is the *Arrowauks*, who are, in every reſpect, worthy of a more particular deſcription than either of the preceding. They live on the back of the *Worrows*, about twenty or thirty leagues from the Sea, where the land is elevated, and leſs expoſed to inundations than the Sea-coaſt, and are the natural proprietors of the greateſt part of the land on which the *Dutch* Plantations, in theſe Colonies, have been, till lately, ſituated; and in many reſpects are of no

ſmall

ſmall ſervice to the White Inhabitants, who, for theſe reaſons, have by law exempted them from that ſlavery, to which all the other tribes are expoſed, on being ſold by each other.

They are of a middle ſtature and ſize, ſtrait, and well-proportioned, and the colour of their ſkin is whiter than that of either of the four other tribes. Their features are very regular and agreeable; their teeth are extremely white and even; their lips thin, eyes black and ſparkling, and, like all the aboriginal *Americans*, they have long, ſtrait, black hair, which they often greaſe with oil of *Caraba*: their chins, and other parts of the body on which hair uſually grows among the *Europeans*, are but thinly covered with a ſoft downy hair, which both males and females themſelves extract, as much as poſſible, from every part of the body, none excepted; this will,

will, indeed, again grow; but as often as this happens, it is again extracted. The features of the women are delicate, and their limbs ſlender, but well-proportioned; nor is a brown ſkin any ways incompatible with the moſt perfect beauty: but their rude uncultivated minds incapacitate them from combining mental with perſonal charms, and to an *European* they can communicate none but ſenſual pleaſure. Diveſted of all artificial diſguiſes, thoſe who are unmarried, appear, in their natural diſpoſitions, wanton and amorous. Their women, however, when old, become very diſagreeable: by early cohabitation, child-bearing, and want of cloaths to preſerve their ſhapes, when advanced in years their bellies become large and wrinkled, and their breaſts long and depending. They wear no cloaths for the ſake of warmth, which, in this climate, are unneceſſary: modeſty, however, has taught

taught them to cover thoſe nudities which *Europeans* are moſt ſtudious to conceal. This the men do by a ſtrip of linen or cotton cloth, either blue or white, paſſed between their thighs, and faſtened, before and behind, to a ſtring, which goes round the waiſt. This is called a lap, and is the ordinary covering of the Negroes alſo. The women weave a covering from ſmall glaſs beads, of different colours, ſtrung on threads of cotton, and ſo diſpoſed, that, when woven, they form different figures by their different colours. This covering is as large as the two palms of a man's hands, and almoſt ſquare, except that the upper angle is narrower than the lower. This is faſtened before by ſtrings of beads tied round the waiſt, and hangs before thoſe parts which it is intended to conceal. Before the *Europeans* viſited theſe countries, the bark of trees,

or the web-like covering of a coco-nut or palm-tree, diſpoſed after the manner in which the *Indians* place their laps, were the only coverings worn, either by males or females.

Juſt above each ankle is a cotton garter knit round the leg, on which it is worn; and on feſtivals, and other merry occaſions, they wear caps of feathers, which conſiſt of a circular band, about two inches wide, woven from the fine thread-like ſplints of ſmall Nibbees, of a ſize adapted to the head on which it is worn. In the upper edge of this is fixed a great number of long feathers, of different, but gay colours, which ſtand erect round the whole circumference of the head. They likewiſe ſtick a great number of ſmall fine feathers, of different colours, on different parts of the body, by the help of the

the balſam called *Arrecocerra*. On theſe occaſions likewiſe they are painted in the face, and on the arms, breaſt, &c. either with *Launa*, or *Arnotta*. The women are uſually the painters, and delineate various figures, according to their different fancies. The women likewiſe wear long ſtrings of ſmall beads, of different colours, cloſely wound round their wriſts, arms, ankles, and above the calves of their legs.

In temper and diſpoſition they are cheerful, humane, and friendly, but ſomewhat timid, or cowardly, except when drunk, which is not unfrequent, as all the *Aborigines* of *America* ſeem to have a natural propenſity to intemperance; nor can the women be excepted, tho' no vice, not even immodeſty itſelf, is more incompatible with the ſoftneſs and delicacy of female charms. But

their happineſs would be too perfect, unalloyed by this vice, which is the ſource of all their quarrels, and of all their crimes. Their language is diſtinct and harmonious, and but little diſſimilar from the *Italian* in ſoftneſs and multiplicity of vowels; it is, however, narrow and confined, like their ideas.

They live in a family ſociety, ſcattered in different parts of the country; but their habitations are uſually contiguous either to the ſides of rivers, or of creeks communicating with rivers. Their houſes are made by cutting four forked ſticks, of different lengths, which they place in the earth in four angles, the two longeſt in front; within the forks of theſe ſticks are laid four poles, which are afterwards covered with ſeveral others, laid in a lateral direction; over theſe are placed the leaves of Troolies,

Troolies, before deſcribed, which are tied to the poles by ſplit Nibbees. A houſe thus built is the work of a few hours only, and when finiſhed affords a ſhelter ſufficient to defend its inhabitants from rain and dew, the only purpoſe for which a houſe in this climate is uſeful; and as their life is ambulatory, and they are unattached to any particular ſpot of earth, it would be a profuſion of unneceſſary toil to erect a more capacious or durable manſion. Under this ſhelter may be ſeen all their domeſtic furniture, their perſonal ornaments, and their arms. But how ſmall the inventory of theſe particulars! happily they are not encumbered with unneceſſary conveniencies; and whenever they travel, which is uſually by water, in ſmall canoes, they tranſport, without difficulty, all their terreſtrial poſſeſſions.

Their uſual ornaments and domeſtic utenſils are two or three ſmall pots, which the mother of each family uſually makes from clay, which are afterwards baked over the fire, and then ſtained with the juice of ſome particular herbs, which render them black. They have commonly a neck towards the top, for the convenience of holding them. They will laſt a conſiderable time, with proper care, and are often uſed by the Whites as well as *Indians*. Alſo a large jar, for making a drink called *Piworree*. The jar is made from the ſame materials as the pots. The *Piworree* is made from the bread of *Caſſava*, or *Manioc*, fermented with water. To promote the fermentation, the females uſually chew a part of the bread, and mix it with water, and when it begins to ferment they add the remainder. When the fermentation is com-

completed, the liquor is decanted from the ſubſiding bread, and drank. It is inebriating, and has ſomewhat the taſte of ale, tho' leſs agreeable. I have often yielded to their importunity, and drank it at their houſes, to avoid giving offence, tho' I would willingly have diſpenſed with their hoſpitality in this particular.—A flat ſtone, on which they bake their bread; and a rough cragged ſtone, on which they grate the roots of *Caſſava* for bread: Several ſhells of gourds and calabaſhes, of different ſizes; ſome are ſmall, and ſerve the purpoſe of ſpoons; others are large, and ſupply the place of bowls and diſhes: A hammock for each perſon, either woven or knit, after the manner of net-work, from the threads of cotton, or the ſtrings twiſted from the bark of the Samee tree: A hatchet, and two or three knives. But before the *Europeans*

viſited theſe countries, fire ſupplied the place of the former; and inſtead of the latter they uſed ſharp ſtones: A ſmall looking-glaſs, framed in paper, and a comb; but both theſe have been added to the number of their domeſtic utenſils ſince their intercourſe with the *Europeans:* To theſe may be added paint, either from the *Arnotta,* or *Launa,* and a gourd, with oil of *Caraba,* with which they daily ſmear their ſkins; a practice which is attended with ſeveral advantages; as the oil, by its great bitterneſs, defends them from the bites of Muſquitoes, ſoftens and lubricates the ſkin, which by being conſtantly expoſed to the ſun, would be otherwiſe dry and ſtiff, and alſo prevents exceſſive perſpiration.

The celebrated *de Reaumur* has ſome years ſince demonſtrated, that profuſe perſpi-

perſpiration impairs the longevity of all animals, by diſcharging not only the uſeleſs, but nutritious parts of the animal fluids; and an exceſs of perſpiration ſeems to be the true reaſon why the inhabitants of Hot Climates live a ſhorter term than thoſe who inhabit the Temperate Zones: And we find, that the native inhabitants of almoſt all tropical countries have conſtantly uſed means to repreſs this profuſe tranſpiration. The *Hottentot* uſes greaſe and ſoot; the *Indian* uſes oil; but both for the ſame purpoſe.

Their arms, beſides muſquets, of which they have but a few, are either large, heavy, ſharp clubs, ſuch as are uſed by the *Carribbees*, or arrows, poiſoned or unpoiſoned. The former are blown through hollow reeds by the force of the lungs, and the latter are ſhot by bows. Their bows are about

five

five feet in length, made from Waſceba, or ſome other heavy and elaſtic wood; and the ſtrings are twiſted from ſilk-graſs. The arrows are about four feet in length, made from a ſtraight unjointed cane about three feet long, into one end of which is inſerted a piece of heavy wood, a foot in length, and ſomewhat ſmaller than the cane. This is done for the ſake of giving the arrow due weight. This piece of wood at the end ſometimes has a large globular head; but if the arrow is intended to kill, the wood is either formed into a ſharp point, bearded with notches, or is armed with a ſteel point, according to the animal for which it is intended. The arrows uſed for ſhooting fiſh have three forked points of ſteel bearded, but the middle point is two inches longer than the other two. Before the *Europeans* viſited theſe countries, the *Indians* uſed

ſharp,

ſharp, tapering, rugged ſtones, to ſupply the place of ſteel points. At the other end of the arrow, cloſe to the notch for the ſtring, are placed, on oppoſite ſides, two feathers, about ſix inches long, which ſerve to direct the flight of the arrow with greater certainty.

The Poiſon Arrows are made from ſplinters of the hard, ſolid, outer ſubſtance of the Cokarito tree, and are uſually about twelve inches in length, and are ſomewhat larger than a coarſe knitting needle. One end of the arrow is formed into a ſharp point, and invenomed in the poiſon of Woorara; round the other end is wound a roll of cotton, adapted to the cavity of the reed through which the arrow is to be blown. The arrow, thus decked and armed for deſtruction, is inſerted into a hollow ſtraight reed, ſeveral feet in length, which being directed towards the

the object, the arrow is, by a ſingle blaſt of air from the lungs, protruded through the cavity of the reed, and flies, with great ſwiftneſs and unerring certainty, the diſtance of thirty or forty yards, conveying ſpeedy and inevitable death to the animal from which it draws blood. Blowing theſe arrows is the principal exerciſe of the *Indians* from their childhood; and by long uſe and habitude they acquire a degree of dexterity and exactneſs at this exerciſe, which is inimitable by an *European*, and almoſt incredible.

Monſieur *de la Condamine* mentions a ſpecies of poiſoned arrows uſed by the *Indians* inhabiting the ſhores of the River of *Amazons* *, which are ſimilar

* Les Yamcos ſont fort adroits à faire de longs Sarbacanes, qui ſont l'arme de chaſſe la plus ordinaire des Indiens. Ils y adjuſtent des petites flèches des

to thoſe uſed by the *Indians* on the coaſt of *Guiana*; and the poiſon with which they are invenomed probably agrees in its principal ingredients with thoſe which enter the compoſition of the poiſon of Woorara, which is ſo called from

des bois du palmier, qu'ils garniſſent, au lieu de plume, d'un petit bourlet de coton, qui remplit exactement le vuide de tuyau. Ils le lancent, avec le ſouffle à 30 & 40 pas, & ne manquent preſque jamais leur coup. Un inſtrument ſi ſimple ſupplée avantageuſement, chez toutes ces nations, au defaut des armes à feu. Ils trempent la pointe de ces petites flèches, ainſi que celles de leurs arcs, dans un poiſon ſi actif, que quand il eſt recent, il tue en moins d'un minute l'animal à qui la flèche a tiré du ſang. Quoique nous euſſions des fuſils, nous n'avons guère mangé ſur la Riviere de gibier tué autrement, & ſouvent nous avons rencontré la pointe du trait ſous la dent; il n'y a à cela aucun danger; ce venin n'agit que quand il eſt melé avec le ſang. Alors il n'eſt pas moins mortel à l'homme, qu'aux autres animaux. Le contrepoiſon eſt le ſel, & plus ſûrement le ſucre.—*And in another place*, Ce poiſon eſt un extrait, fait par le moyen de feu, des ſucs de diverſes plantes, & particulierement de certains Lianes.

a Nibbee of that name, which is its principal ingredient. Mr. *de la Condamine* was, indeed, informed, that the poiſon of the *Ticunas* tribe, which was the moſt eſteemed among the different nations of *Indians* near the River *Maranon*, was compounded from more than thirty different kinds of roots and herbs; whereas that of the *Accawau Indians*, who are here confeſſedly the moſt ſkilful in theſe lethiferous preparations, contains only five ingredients; though the other nations, particularly the *Arrowauks*, make ſeveral whimſical additions, among which are the teeth and livers of venomous ſnakes, and red pepper,

anes. On aſſure qu'il entre plus de trente ſortes d'herbes ou de racines dans le venin fait chez les Ticunas, qui eſt celui dont j'ai fait l'epreuve, & qui eſt le plus eſtimé entre les diverſes eſpeces connues le long de la Riviere des Amazons.

Vide *Relation abregée d'un Voyage fait dans l'interieur de l'Amerique Meridional, &c.*

which

which laſt may perhaps ſerve to augment its activity. The *Worrows* likewiſe add ſeveral frivolous articles, probably in obedience to the inſtructions of their anceſtors, to which they ſuperſtitiouſly adhere. But the ignorant are ever fond of amaſſing a farrago of ingredients in compoſition, abſurdly expecting thereby to obtain the end deſired with more certainty; and the ſuperfluous articles, added by the *Arrowauks* to the *Indian* poiſon, are not more whimſical than many ingredients which once entered the hotch-potch officinal compoſitions of pharmacy.

The following is the recipe by which the *Accawau* Arrow Poiſon is uſually prepared, and which I have procured from ſeveral of their Peii's, or phyſicians, at different times, who all exactly agreed in the number and identity of the ingredients, but with ſome variation in their

their quantities, which, indeed, they have no method of either expreſſing or aſcertaining with exactneſs.

Take of the Bark of the Root of Woorara, ſix parts;
Of the Bark of Warracobba coura, two parts;
Of the Bark of the Roots of Couranapi, Baketi, and Hatchybaly, of each one part:

All theſe are to be finely ſcraped, and put into an *Indian* pot, and covered with water. The pot is then to be placed over a ſlow fire, that the water may ſimmer for a quarter of an hour; after which the juice is to be expreſſed from the Bark by the hands, taking care that the ſkin is unbroken: this being done, the Bark is to be thrown away, and the juice evaporated over a moderate fire to the conſiſtence of tar, when it is to be removed, and flat pieces of the

the wood of Cokarito are dipped therein, to which the poiſon, when cold, adheres, appearing like a gum of a brown reddiſh colour. The pieces of wood are then put into large hollow canes, cloſed at the ends with ſkins, and in this manner the poiſon is preſerved until it is wanted to invenom the point of an arrow, at which time it is either diſſolved in water, and the points of arrows dipped in the ſolution; or the wood to which it adheres is held over the fire until it melts, and the points of arrows are then ſmeared with it. The ſmalleſt quantity of this poiſon, conveyed by a wound into the red blood-veſſels of an animal, cauſes it to expire in leſs than a minute, without much apparent pain or uneaſineſs; though ſlight convulſions are ſometimes ſeen near the inſtant of expiration.

Mr. *Heriſſant* declares *, that he was told by Mr. *de la Condamine*, that the *Indians* committed the care of boiling the Arrow-poiſon to a criminal woman, and that the time of her death was an indication of its being ſufficiently boiled. But in this particular Mr. *de la Condamine* was, doubtleſs, impoſed upon, as it has all the air of a fable, and as the *Indians* here evaporate it in open air, without the leaſt danger, till it acquires a due conſiſtence, which is all that is propoſed, and is eaſily diſcovered, without the death of an old woman. The ſymptoms which Mr. *Heriſſant* perceived, might indeed happen by hard boiling, which the *Indians* avoid, and in a ſmall cloſet, where the ſteam, raiſed by an unneceſſary degree of heat, was confined, and received into the lungs.

* Vide *Philoſophical Tranſactions*, vol. xlvii. pag. 75.

The

The Poiſon, when thus inſpiſſated, is liquifiable by heat, and diſſoluble in water, in alcohol, in ſpirit of ſea-ſalt, and in a volatile alkaline ſpirit, as alſo in blood, ſaliva, &c. except only a very ſmall part, which ſubſides both in a ſpirituous and aqueous menſtruum, and probably conſiſts of earthy particles foreign to the compoſition. It unites with acids without emotion, or change of colour. On mixing it with alkalies no ebullition is perceptible, but the colour changes from a reddiſh brown to a yellowiſh brown. A few grains, mixed with as many ounces of human blood, warm from the veins, intirely prevents a ſeparation of ſerum and craſſamentum, and the whole maſs continues united in a ſtate of fluidity, ſimilar to that in which it is drawn, until after ſome days it putrifies.

Don *Ulloa* *, ſpeaking of the *Indian* Arrow-poiſon, attributes to it a frigorific quality, and ſays it kills by coagulating the blood. How he came by the knowledge of theſe particulars, I am uncertain; but *De la Condamine* no where mentions them; nor did any ſigns of coagulation ever appear in the fluids of thoſe animals which have been killed in *Europe*, with the Poiſon of *Lamas* and *Ticunas* †. But if what *Ulloa* ſays be true, the Poiſon of the *Peruvian* and *Amazonian Indians* muſt be different from that of the *Indians* on the Coaſt of *Guiana*, ſince the latter rather diſſolves than coagulates the blood, as I have

* Vide *Relacion hiſtorica del Viage al America Meridional, &c. par Don Jorga Juan & Don Antonio Ulloa, &c.*

† See in the *Philoſophical Tranſactions*, vol. xlvii. p. 75. Experiments made on a great number of living animals with theſe Poiſons, by Mr. *Heriſſant*, M. D. and F. R. S.

diſco-

diſcovered by repeated experiments; and that it is not frigorific, is evident not only from its taſte, which is bitter, and extremely pungent and hot, but becauſe the *Arrowauks* combine it with red pepper, which would deſtroy its effects if they depended on a frigorific quality: beſides, it excites inflammations externally, as I once unluckily experienced, when ſtirring a parcel of human blood, poiſoned therewith, a drop accidentally fell into my left eye; and tho' I immediately plunged my head into the River *Demerary*, by the ſide of which I was ſtanding, it nevertheleſs excited a painful inflammation, which continued for ſeveral days. This accident, however, I am ſenſible is not alone concluſive; but the particulars before cited ſufficiently prove the Poiſon of *Woorara* has not the qualities mentioned by *Ulloa*, who probably was ac-

quainted only with the Poiſon of *Lamas**, as it does not appear that he ever viſited the River of the *Amazons*; but as neither this, nor the *Amazonian* Poiſon, after repeated experiments, have betrayed thoſe qualities he aſcribes to them, it appears probable, that, for want of a more perfect knowledge of the action of Poiſons in general, he might have imagined that the effects of the Arrow-poiſon could only reſult from refrigeration and coagulation, and therefore endowed them with theſe qualities, on the ſtrength of conjecture.

I ought to have before informed you, that the ſeveral ingredients mentioned in the Recipe for compounding the *Ac-*

* The Poiſon of *Lamas* takes its name from a tribe of *Indians* of that name in *Peru*. It is leſs active than that of *Ticunas*; but the moſt fatal effects are ſaid to reſult from a mixture of both.

cawau

cawau Poiſon, are all Nibbees of different kinds; but whether all, or indeed any more of them than the *Woorara* are neceſſary, or whether the efficacy of the Poiſon might not be farther improved, I am uncertain: It is, however, already too fatal to be truſted in the hands of any people, but thoſe who are in a ſtate of nature, in which criminal paſſions are feeble and languid. How the inſtantaneous fatal effects of this Poiſon can reſult from ſo ſmall a portion as may be ſuppoſed to be left by the point of an arrow immediately extracted, is inexplicable: That it has the power of diſſolving the fluids, is certain; but I am far from thinking that its fatal effects are produced by any ſuch diſſolution. The *Indians* conſtantly moiſten the points of their Poiſon-arrows, when over dry, with the juice of lemons, which tends to produce an oppoſite effect; and blood drawn from

the jugular veins and carotid arteries of animals, at the inſtant of their expiration by the effects of this Poiſon, affords no uncommon appearance, and, after ſtanding, regularly ſeparates into ſerum and craſſamentum, with a greater degree of coheſion than is uſually obſerved in ſcorbutic caſes; but yet the animals expired as it were by an inſenſible extinction of the vital flame. Can ſuch inſtantaneous fatality reſult from any change in the texture of the fluids, in ſo ſhort a ſpace? I doubt whether they are ſuſceptible of it: nor do I believe that theſe ſudden deleterious effects can ariſe, except from an immediate injury offered to the ſenſible nervous ſyſtem, or the ſource of the vital functions. Mr. *Heriſſant* thinks it contracts the veſſels *, but ſays it does not uſually

* Since theſe Sheets went to the Preſs, I have made ſeveral Experiments with this Poiſon on diſeaſed and emaciated animals, having but a ſmall portion

alter the appearance of the fluids, tho' he once or twice obſerved the blood to aſſume a browniſh colour.

Againſt this Poiſon there is no certain antidote diſcovered; and its effects are ſo ſudden, that I doubt whether any thing taken by the alimentary paſſage can act with ſufficient celerity to preſerve life. M. *de la Condamine*, indeed, ſays, that Salt; but Sugar, more certainly, is an antidote for the *Amazonian* Poiſon: and Sugar, or rather, the Juice of Canes, is commonly thought, by the White Inhabitants of this Colony, to prevent the effects of the *Ac-*

portion of blood; and have found its effects much more ſlow than on the more healthy and vigorous. This ſeems to countenance the opinion of Mr. *Heriſſant*, that the fatality of this Poiſon reſults from a contraction of the vaſcular ſyſtem, by which the capacity of the veſſels is ſo far diminiſhed as to obſtruct the circulation of the fluids. But nothing certain can yet be determined on this ſubject.

cawau

cawau Poiſon: But the *Indians* themſelves do not acknowledge this quality in the Cane; and I have never been able, either by my own experiments, or enquiries, to diſcover a ſingle inſtance of its efficacy for that purpoſe. That Gentleman * inſtances an experiment made on a fowl, at *Cayenne*, which was wounded with one of the Poiſon-arrows in preſence of the Commandant, &c. and which, after being doſed with Sugar, betrayed no ſigns of indiſpoſition: But the Sugar had not this effect at a ſubſequent experiment, made at *Leyden*, in preſence of ſeveral of the Medical Profeſſors in that Univerſity; tho' the activity of the Poiſon was then confeſſedly impaired by the Winter: Nor did the Sugar prove an antidote at the experiments repeated by Mr. *Heriſſant*, or at an experiment made by Dr. *Brock-*

* Vide *Relation abregée*, &c.

leſby.

Ieſby *. Mr. *Heriſſant*, however, declares, that an actual cautery immediately applied to the poiſoned wound, prevents its effects.

I have long imagined, from the diſtant affinity between the effects of this Poiſon, and thoſe of ſome Peſtilential and Malignant Fevers, that an Antidote for the former would be uſeful in the latter, and therefore have ſpent ſome time in fruitleſs endeavours for the diſcovery of one. Acids or Alcalies, as ſuch, do not ſeem either to promote or retard its effects; and it is but ſeldom that either Animal or Vegetable Poiſons derive their deleterious properties from either of theſe principles; nor is

* See his Letter to the Preſident of the Royal Society, concerning the *Indian* Poiſon ſent over from Mr. *de la Condamine*, Member of the Royal Academy of Sciences at *Paris*; *Philoſophical Tranſactions*, vol. xliv. part ii. p. 408.

the

the doctrine of Acids or Alcalies pertinent, except to Saline or Foſſil Poiſons *.

That this Poiſon may duely operate, it is neceſſary that it ſhould be externally admitted into the ſanguine veſſels †; becauſe when received by the alimentary paſſage it is ſubdued by the action of the digeſtive organs, or ex-

* As the Author has brought a conſiderable quantity of this Poiſon to *England*, any Gentleman, whoſe genius may incline him to proſecute theſe experiments, and whoſe character will warrant us to confide in his hands a preparation, capable of perpetrating the moſt ſecret and fatal villainy, may be ſupplied with a ſufficient quantity of the *Woorara*, by applying to Mr. *Becket*, in the *Strand*.

† That a portion of this Poiſon, brought into contact with a ſerous veſſel, ſhould not produce the ſame effect as when immediately received into a ſanguiferous vein, can only be accounted for, by ſuppoſing that its contracting quality ſo far diminiſhes the capacity of the veſſel as to exclude its own admiſſion.

cluded

cluded from the channel of circulation by the lacteals *. When ſwallowed by animals, in large quantities, it is uſually ejected by the mouth. Dr. *Brockleſby*, indeed, declares, that in giving a watery ſolution of the *Amazonian* Poiſon internally to a bird, it became convulſed, and died when two drops had ſcarcely touched its tongue, tho' it had juſt before been doſed with Sugar. This is an experiment which contradicts

* The Author of our being, by wiſely ordering the mechaniſm of our bodies ſo that nothing can be received into the ſanguiferous veſſels except through the minute paſſages and ſtrainers of the lacteal and lymphatic veſſels, and their glands, has happily preſerved us from innumerable diſorders, to which we ſhould be otherwiſe inceſſantly expoſed. Olive oil, ſo harmleſs when either ſwallowed, or ſmeared over the body, if injected immediately into the blood veſſels, produces death. And thus the Poiſon of *Woorara*, taken internally, or applied externally, is harmleſs, tho' nothing can be more fatal when conveyed into the veins or arteries.

every

every other obſervation of Meſſrs *de la Condamine* and *Heriſſant*, as well as the conſtant practice of the *Amazonian Indians*, in eating the fleſh of animals killed by this Poiſon; a practice, in which they are imitated by the *Indians* of *Guiana*, who frequently taſte the Poiſon of *Woorara*, as I have myſelf ſeveral times done, without detriment. But as the veracity of Dr. *Brockleſby* is unqueſtionable, it is neceſſary to ſuppoſe, that the ſkin of the bird's tongue, or mouth, was, by ſome accident, broken, which was probably the caſe. If the cuticle is unbroken, this Poiſon, diſſolved, may be ſmeared over the whole body, without danger; and I have often, in making experiments, found not only my hands, but arms, wet with a watery ſolution of the *Woorara*, which is ſuſceptible of a violent effervescence with the heat of the ſun only, and which I have ſuffered to dry upon the ſkin with impu-

impunity. In this caſe life depends upon a whole ſkin.

When only a lymphatic veſſel is wounded by one of theſe poiſoned Arrows, a febrile inflammation enſues: Of this I once ſaw an example in an *Indian*, belonging to the Plantation of *Iſaac Knot*, Eſq; a Member of the Council, and Senior Captain of the Burghers of *Demerary*, with whom I then reſided, and which was the only inſtance in which I had ever an opportunity of obſerving the action of this Poiſon on any of the Human Species. This *Indian* had, by accident, ſlightly pricked the fore-finger of his left-hand with the point of a poiſoned arrow, but as no blood enſued, he had apprehended no danger; but finding that the wound ſoon after became painful, and the hand conſiderably ſwelled, he came to me for aſſiſtance. I was at that time wholly

wholly unacquainted with this Poiſon, and therefore called for an *Indian* Peii, of the *Arrowauk* tribe, who was near, and inquired, by an interpreter, if he knew of any remedy? He replied in the negative; but added, that the *Indian* would not die, as no blood had appeared from the prick, which was ſcarce perceptible. The effects of the Poiſon, however, ſoon became more violent, and not only the hand but whole arm was tumified, attended with a quick, hard, throbbing pulſe, great febrile heat, quick reſpiration, and thirſt, together with an inflammation and tumefaction of the lymphatic ſubaxillary glands *.

* This is a circumſtance which tends to confirm what the celebrated Dr. *Hunter* ſeems to have inconteſtibly demonſtrated, in his *Anatomical Lectures*, that the lymphatic and lacteal veſſels uniting into one common canal, called the Thoracic Duct, form a diſtinct abſorbing ſyſtem of veſſels, the only canals by which any thing can be received into the channel of circulation, unleſs the blood-veſſels ſuffer

At this time he was bled, and his arm embrocated with olive oil and vinegar; ſeveral antiphlogiſtic remedies were likewiſe given internally, which it would

ſuffer a previous rupture, and thereby afford an unnatural admiſſion into their cavities. That the lymphatics are the only natural abſorbents, is, among other ſtill ſtronger proofs, evident from this obſervation, that all Poiſons which apparently affect the ſolids, act firſt ſolely on the lymphatic veſſels, or their glands; whilſt the venal ducts, which have been hitherto ſuppoſed to abſorb, remain uninjured. Thus the venereal poiſon, when received by coition, affects the inguinal glands, through which the lymphatics from the *penis* paſs, and generates buboes. If it is received by the breaſt, it acts on the ſubaxillary glands, with which the mammary lymphatics communicate, &c. And in the preſent inſtance, we find the Poiſon of *Woorara* producing a tumefaction and inflammation of the ſame glands, to which it was conveyed by the lymphatic veſſels from the finger, and in which it was arreſted. Thus the Poiſon was refuſed a paſſage into the ſanguiferous veſſels by the lymphatic glands, which are wiſely diſpoſed ſo as to obſtruct the entrance of almoſt every thing detrimental to health.

be uſeleſs to particularize, as I am uncertain whether they were of any ſervice. In about twelve hours the violence of the ſymptoms was apparently decreaſed, and the next morning they almoſt entirely diſappeared.

Theſe arrows are uſed in hunting, but particularly for killing monkies, who, when wounded with unpoiſoned arrows, uſually run to the crotch of a tree, from whence they do not fall, even when dead; whereas, when pricked with a poiſon arrow, their limbs become uſeleſs, and they fall to the ground. But I do not find, that even in their wars, which are ſeldom, they ever attack any of the human ſpecies with poiſoned arrows; and yet it may be wondered that a people, living under no laws, actuated by no religious principles, and unreſtrained by the fear of either preſent or future puniſhments, and

and having at their diſpoſal ſo fatal a poiſon, ſhould not ſometimes exerciſe it for the gratification of hatred, jealouſy, and revenge; but theſe paſſions are languid in a ſtate of nature, where, though there are fewer reſtraints, there are alſo fewer temptations to vice; and the different tribes are, doubtleſs, ſenſible, that the detriment which they ſhould mutually ſuſtain, from the uſe of poiſoned arrows in their wars, would far overbalance any advantage which could reſult therefrom. Much, however, is to be attributed to that friendly and hoſpitable diſpoſition by which they are happily diſtinguiſhed from the more Northern *Indians,* being intirely deſtitute of that ferocity which characteriſes the *Indians* contiguous to our Continental *American* Colonies, and which prompts them to commit ſuch horrid ravages on their interior defenceleſs inhabitants.

The Religious Sentiments of all the known tribes in *Dutch Guiana* are nearly ſimilar. They all firmly believe the exiſtence of one ſupreme God, the Author of all Nature. But the foundation of this belief depends not on contemplating the effects of that wiſdom and power, which has diſpoſed the innumerable orbs of the univerſe with ſuch harmony, that millions of worlds revolve round millions without impediment to each other; nor on the order, beauty, and regularity which is apparent in every part of this our material ſyſtem; but on the deformities and convulſions of Nature, which, to a philoſopher, tend to create ſcepticiſm and infidelity. The *Indian*, however, ſees unqueſtionable evidences of a Deity in earthquakes, prodigies, thunder-ſtorms, and tempeſts.

The

The principal attribute with which theſe tribes endow the Deity is benevolence; and though they impute the good, yet they attribute none of the ills of life to him. Good and evil they think ſo eſſentially different, ſo incompatible with each other, that they can never flow from the ſame ſource; and have therefore inſtituted an order of ſubordinate malevolent beings, correſponding to our commonly received ideas of Devils, who delight in, and are permitted to inflict, miſeries on mankind. To them are attributed all the misfortunes and afflictions of life. Death, diſeaſes, wounds, bruiſes and all the unlucky accidents of life, are ſuppoſed to reſult immediately from the malign influence of theſe beings, who are called *Yowahoo's* by the *Indians*, who think that they are conſtantly employed in concerting meaſures for afflicting them. To theſe *Yowahoo's*, therefore, they di-

their ſupplications, and in affliction uſe various endeavours to avert, or appeaſe, their malevolence; while the adoration of the ſupreme Deity is intirely neglected.

In almoſt every family there is a perſon conſecrated to this ſervice, who unites in himſelf the ſacerdotal and medical characters. Theſe are called Peii's, or Symmeties, and are believed, by the laity, to have a particular influence with theſe *Yowahoo's*, not only for averting their diſpleaſure from particular objects, but in drawing down their vengeance upon ſuch perſons as they pleaſe: a belief, which theſe Peii's inceſſantly cultivate, from ſelf-intereſted principles, which have ever been found inherent in all orders of men, whether in a ſtate of nature or of civilization. When, therefore, a perſon is ſick, or wounded, application is immediately made to a Symmetie,

metie, who at night viſits his patient, with all the implements neceſſary to exerciſe his ſeveral functions. Of theſe the principal one is a large calabaſh, freed from its ſeeds and internal ſpungy ſubſtance, in which there is a variety of ſmall circular, as well as of long, narrow holes, made in different parts of the ſhell, which is likewiſe painted with various colours. Within the ſhell are put ſeveral ſmall white ſtones, which are a ſpecies of agates, and on this account are held in ſuperſtitious veneration by the laity among the *Indians*, who durſt not even touch them; to theſe are added a great number of ſmall pea-like ſeeds, variegated with black and yellow ſpots, which, as is commonly believed by the *Indians*, will occaſion the teeth to fall out if they are chewed. A long round piece of wood is then run through the middle of the ſhell, from end to end, by means of two holes properly

made, ſo that each end of the ſtick extends about a foot beyond the calabaſh; the largeſt end affords a handle, and the other is ornamented with a long ſtring of beautiful feathers, of various colours, wound on the ſtick in ſpiral circles.

With this *magical ſhell* the Peii begins his nocturnal exorciſm, about ten o'clock in the evening, having firſt darkened the room, and made every one quit it except his patient; he then rattles his ſhell, by turning it ſlowly, in a circular motion, at the ſame time ſinging a ſupplication to the *Yowahoo*, which, as well as the motion of the ſhell, is inceſſantly repeated until midnight, when the Peii pretends to have an interview with the *Yowahoo*; and at that time two apparently diſtinct voices may be always overheard, by any perſon who has the curioſity to liſten, unleſs it happens to rain at that time, when the Peii immediately

diately poſtpones his incantation to the next evening. What paſſes at theſe interviews is unintelligible even to the *Indian* laity themſelves; but the Peii makes a report conformable to his conjectures concerning the event of his patient's diſorder; tho' uſually in an ambiguous or doubtful ſtile.

There are many of the White Inhabitants, who have long reſided in this Colony, that believe the reality of theſe interviews; nor will they be perſuaded that the voice, which is attributed to the *Yowahoo*, and which ſeems to come from the woods, can poſſibly be made by the Peii.

This ceremony has ſome analogy to the *Pawwaws* of the *North American Indians*; and indeed all the different tribes on the continent pretend to an intercourſe with evil ſpirits; but the Peii's carry

carry their diſſimulation ſo far, that they act the farce on themſelves when they are diſordered; a practice, which has not a little contributed to overthrow all doubts of the ſincerity of their pretenſions.

Theſe exorciſms are uſually repeated every night, during the increaſe of the patient's indiſpoſition; but after a favourable change, or criſis, has happened to the diſeaſe, the Peii pretends to extract the cauſe of the diſorder, by ſucking the part which has been moſt painful, or moſt affected, and then pulls out of his mouth either fiſh-bones, thorns, ſnakes teeth, or ſome ſuch ſubſtance, which he has before concealed therein, but which he pretends were maliciouſly conveyed into the affected part by the *Yowahoo*. The patient then imagines himſelf cured, and the influence of imagination not a little accelerates his recovery. During this time, however, they do not

not neglect the use of those few remedies, whose properties have been discovered rather by chance than design, and which they have observed to produce good effects in cases apparently similar, without knowing, or pretending to know, the manner of their operation. And it is from this simple origin, that the science of medicine, divested from its modern improvements, derived its existence. "Diligentes homines hæc notasse, quæ "plerumque melius responderent; deinde "ægrotantibus ea præcipere, cæpisse; "sic medicinam ortam: subinde alio-"rum salute, aliorum interitu, perni-"ciosa discernentem a salutaribus *." But if the combined power of exorcism and medicine is insufficient to preserve life, the Peii attributes the patient's death either to the implacable inveteracy of the *Yowahoo*, or to the influence

* *Celsus*, *præfat.* lib. i. p. 9.

of

of ſome other Peii, whom the patient has unhappily made his enemy, and who has counteracted all his endeavours for his recovery. After the patient's death, the calabaſh, which has been unſucceſsfully uſed, is buried, and a new one made to ſupply its place.

The order of Peii's is hereditary, and is conferred only on the eldeſt ſon of a Peii, who is initiated into the myſteries of his Peiiſhip with much private, but ſuperſtitious ceremony, continued for ſeveral weeks; and, among other whimſical ceremonies practiſed on this occaſion, he is doſed with the juice of Tobacco, till it no longer operates as an emetic: Tobacco being eſteemed a ſacred plant among all the *Aborigines* of *America*.

The day after the *Indian*'s death, he is buried naked, by an aſſemblage of his relations, friends, and acquaintance, who,

who, when the ceremony is over, drown their ſorrow in a drunken feaſt, in which their Piworree is freely diſpenſed; this, with another drink, which is but little different, and is called Beltera, being the only fermented liquors known to theſe *Indians* before the *Europeans* tranſplanted themſelves hither. Theſe occaſions preſent a ludicrous ſpectacle of crying, ſinging, riot, and drunkenneſs; the old women are particularly noiſy and petulent, and diſtinguiſh themſelves by ſinging loud ſongs in praiſe of the perſon deceaſed; and the whole is a confuſed ſcene of mirth and ſorrow, ridiculouſly combined in the ſame object. After the body has lain in the earth for ſeveral months, and the fleſh is ſuppoſed to be perfectly rotten, the grave is opened, and the bones taken out and diſtributed among the relations, on which occaſion the ſame ludicrous ſcene of riot and ſorrow is again re-acted.

Though

Though individuals in the different tribes of *Indians* live in amity, and exerciſe the rules of hoſpitality towards each other, yet they have no Chief, are neither reſtrained nor protected by any laws, but an injury, when offered, is either revenged or forgiven, according to the diſpoſition of the injured perſon. But happily injuries are unfrequent, as they ever muſt be, in a ſtate where luxury and inequality are unknown; where the inhabitants have no wants but what are eaſily ſupplied; where every bleſſing of nature is the common undivided property of all; and where, of conſequence, there can be no temptations to diſhoneſty and injuſtice. An injury committed in ſuch a ſtate muſt be either the effect of drunkenneſs or wantonneſs; and it is univerſally obſerved, that all their quarrels ariſe from intemperance only.

In

In this ſtate, the father reſtrains his children by parental authority, until they arrive at an age of maturity, in which reaſon is ſufficient to withſtand the feeble temptations to which they are expoſed. At this time they marry; and though polygamy is univerſally allowed, it is not often practiſed; and an *Indian* is rarely ſeen to be the huſband of more than one wife, unleſs the former is become old and diſagreeable. In this caſe the huſband takes a ſecond, at the age of ſeven or eight years, who lives and ſubſerves the former in all domeſtic employments until the term of puberty, which, in this climate, is uſually between ten and eleven years, at which time ſhe cohabits with the huſband. The ceremony of marriage is nothing more than a drunken feaſt. But notwithſtanding they have no religious reſtraints to conjugal fidelity, yet adultery is leſs frequent than among civilized

vilized nations, where too many at the altar, in the moſt ſolemn manner, impiouſly enter into engagements, without intending to fulfil them; a crime ſo common, that its frequency is abſurdly urged as an excuſe for its commiſſion. But with the *Indians*, Nature is their only law to love, and conſtancy is Nature's dictate. This, however, is the caſe only with thoſe who live at a diſtance from, and are uncorrupted by, the *Europeans*; thoſe *Indians*, who have a nearer and more conſtant intercourſe with the Whites, being encouraged in their natural propenſity to intemperance, that the debauchery of their wives may be effected with more facility. There is no injury, however, of which the *Indians* are more ſenſible, or which they oftener revenge; but this they never attempt on the Whites, for whom they have no ſmall veneration. But though chaſtity after marriage

marriage is required, it is far from being deemed neceſſary even in the females before that ceremony; not that the huſband, like thoſe of an *Oriental* nation, is diſpleaſed at being put off with a virgin; but it ſeems a matter of perfect indifference.

After marriage, a houſe, with its furniture, ſuch as I have already deſcribed, is provided for the new married couple, contiguous to that of the father's; and as the men find themſelves ſtronger than the women, they claim a ſuperiority, which, in ſpite of love, they exerciſe over their wives, who not only ſubſerve them in all domeſtic offices, but even in agriculture, after the men have firſt cleared the ground from its trees. Here the women plant Caſſava, Plantins, and Yams, ſufficient for making of bread and Piworree, theſe three being almoſt the only vegetables which they uſe,

that are not the ſpontaneous productions of Nature; and in this climate, one month's labour annually is amply ſufficient for the cultivation of theſe productions.

An appetite for animal food, and the facility of acquiring it in this country, has rendered the men all hunters; and indeed hunting is almoſt their only employment. Whenever their meat is at an end, the huſband takes his arrows, and goes in queſt of game. If he is unſucceſsful in his ſearch after Deer, Labba's, &c. he ſits down by a tree, and imitates the cry of a *Puccarara*, or *Indian* Coney; and as they are very numerous, ſeveral of them ſoon appear, of which he ſhoots as many as he wants, and returns home, where he continues till hunger reminds him that his meat is gone. If he has an appetite for fiſh, he goes to a ſmall creek, emptying into a ri-

a river. Theſe are uſually kept fenced at the mouth, leaving only a ſmall opening, three or four feet in width, through which the fiſh enter with the tide of flood in queſt of food. This opening the *Indian* ſtops, at the point of high water, with a fence made from ſticks, tied together ſo cloſe, that the fiſh cannot eſcape through them. Many of theſe creeks are empty at low water, and the fiſh are found lying on the mud. When this is not the caſe, the fiſh are intoxicated, by throwing into it a bruiſed root of Hiarra, at the point of low water, and the fiſh ſoon float motionleſs on the ſurface of the water, and are then taken.

Their uſual method of cooking all animal food, is by boiling it either with water, or the juice of Poiſon Caſſava, to which they add ſuch a quantity of Red Pepper, as would inſtantly excoriate the

mouth of a perſon unaccuſtomed to its uſe, which is indiſpenſibly neceſſary in this climate, to corroborate the ſolids, and promote digeſtion, which would otherwiſe be imperfect; though it is a general but miſtaken opinion, that the copious uſe of ſpices is detrimental to the inhabitants of hot climates; whereas nothing is more productive of health; and we find that Nature has not only produced them more particularly in theſe climates, but taught the inhabitants their uſe; and not only the *Indians* of *America* between the Tropics, but the inhabitants of *Africa* and the *Eaſt*, all ſeaſon their food with a great quantity of Spices, particularly Pepper; a practice in which they are likewiſe imitated, in a greater or leſs degree, by all the *Europeans* who have reſided in theſe countries long enough to acquire the knowledge of its uſe. By this practice the *Indians* wholly preſerve themſelves from thoſe

Inter-

Intermitting Fevers which are endemial to the other inhabitants of *Guiana*, who do not imitate them therein. But tho' the *Indians* live in the exceſſive uſe of Pepper, they are never afflicted with the Gout, notwithſtanding the humidity of the air renders it particularly troubleſome to thoſe of the White Inhabitants, who have tranſported it from *Europe*; and I think that Spices ought to be no longer enumerated among the prædiſpoſing cauſes of that diſorder. The *Indians*, however, uſe but little Salt with their food, and until the *Europeans* viſited them, they had none, except what they ſometimes procured by boiling ſea-water in their ſmall clay pots; but the far inland inhabitants ſcarce ever ſaw any in their lives. The *Indians* have no ſet time of eating except at evening, when they return from hunting; at other times they eat whenever they are ſtimulated by hunger.

I forgot to inform you, that the Peii's religiouſly abſtain from the fleſh of oxen, ſheep, and all other animals that have been tranſplanted from *Europe*, and are unnatural to *America*.

The *Indians* drink Piworree with their food, when they have it, but their indolent improvidence often renders them deſtitute of it; in which caſe water ſupplies its place. In this climate, however, and with their natural propenſity to intemperance, their improvidence is a bleſſing, as they would otherwiſe be intoxicated the greateſt part of their lives. Their unconcern for futurity, however, is by no means ſingular or unnatural, improvidence being the univerſal characteriſtic of all uncivilized nations. To forego preſent eaſe for future advantage, to neglect an immediate for a diſtant enjoyment, can only be ſuggeſted by cultivated reaſon.

As

As the *Indians* have but little, and often no Salt, whenever they have a greater quantity of animal food than is required for preſent uſe, they preſerve it after the manner of the *Darien Indians*, by drying and ſmoaking it over a ſmall fire; and when the ſucculency is, by that means, diſſipated, it may be kept for many months without danger of putrefaction.

The ſimplicity of the lives of theſe people, the paucity of their wants, and the eaſe with which they are ſupplied, in a country ſo happily ſituated, and ſo liberally endowed with the neceſſaries of life, leaves the greater part of their time unoccupied with the cares of procuring ſuſtenance, in which they have ample leiſure to purſue the various modes of amuſement and pleaſure, which are moſt agreeable to their ſimple, ruſtic inclinations: A part of theſe idle hours

they paſs in bathing and ſwimming in the rivers, which they do in companies, without diſtinction of ſex, ſeveral times a day; and they are ſo conſtant and expert at ſwimming, that they almoſt deſerve to be claſſed with amphibious animals; this they find not only an agreeable but ſalubrious exerciſe, as it tends to repreſs exceſſive perſpiration, and preſerve health: At other times they viſit each other, and are mutually entertained, not only with the ſimple occurrences of their lives, but with a variety of fables, which are merry, ſignificant, and replete with ſuch ſimple morality, as their confined obſervations and uncultivated minds have ſuggeſted. On theſe occaſions they often abandon themſelves to puerile mirth, dancing, or immoderate laughter; but harmony and good-humour ever prevail, until they are intoxicated by drink. But the greateſt part of their leiſure hours are idly paſſed in their hammocks,

hammocks, in which they not only ſleep, but eat, converſe, play, blow a kind of rough clumſy flutes, eradicate their beards, or view themſelves in glaſſes, and admire their features, for they are not untinctured with vanity.

Their indolence ſeems to be conſtitutional, produced by the warmth and humidity of the atmoſphere, which conſpire to relax and debilitate the inhabitants, and render them leſs vigorous and active than thoſe of colder climates. But if they have leſs ability or diſpoſition for labour, they alſo find it leſs neceſſary than in other climates; as the ſame heat and moiſture which thus enervates the body, generates an exuberant fertility of ſoil, a ſpeedy luxuriant vegetation, and a multiplicity of ſpontaneous animal and vegetable productions; which, with the abſence of winter, and other peculiar advantages, amply compenſate for this debility.

bility. It is thus that almoſt every ill is, in ſome degree, alleviated by an attendant advantage.

Though the *Indians* are but little acquainted with midwifery, Nature has happily rendered it unneceſſary, as a difficult or painful birth is ſcarce ever known, nothing more being neceſſary than to receive the infant when it ſpontaneouſly preſents itſelf, and divide the umbilic veſſels, which they do with a brand of fire, which cauterizes their orifices, and renders a ligature unneceſſary. On theſe occaſions the women ſuffer ſo little, that they ſeem to have been exempted from the ſentence of bringing forth in ſorrow, which was pronounced on *Eve*, and is inflicted on all the females of civilized countries. The mother and new born infant, when delivered, are carried, and plunged into the water, and the next day the former

reſumes

reſumes the diſcharge of her domeſtic employments.

Children here are ſcarce ever born with natural imperfections; it is very uncommon to ſee an *Indian* either lame or deformed. The children, inſtead of being oppreſſed with exceſs of care and indulgence, paſs a ſtate of infancy without receiving much attention or aſſiſtance from the parents, except food only: but this neglect is far from proving detrimental, and they much ſooner acquire ſtrength and ſelf-ſufficiency. "Mollis illa educatio, quam indulgen-"tiam vocamus, nervos omnes et men-"tis et corporis friget *." The males, as they grow towards manhood, attend the father in hunting; and by habitude and experience acquire a degree of ſagacity and expertneſs at this exerciſe,

* *Quintil.* lib. i. cap. 3.

by

by which all the *Indians* are diſtinguiſhed. The females, at the ſame time, are devoted to the ſervice and aſſiſtance of the mother, in her ſeveral employments.

As the *Indians* are intirely ignorant of Letters, they are unable to comprehend the manner in which they obſerve the knowledge of things communicated by their aſſiſtance; and books they behold with ſuperſtitious veneration, as inſtruments by which the knowledge of paſt and future ſecrets are diſcovered. They ſeem to have ſome notion of a future ſtate; but their ideas on this particular are ſo confuſed and doubtful, that they ſeem rather to hope than believe a future exiſtence: but they ſeem by no means ſollicitous to ſatisfy themſelves on this ſubject, there being an indolent tranquillity and inattention to futurity, which predominates not

not only in this, but every other particular; and their cares, inſtead of extending to a ſtate of future exiſtence, ſeldom reach beyond the preſent hour; nor, except in the ſingle article of agriculture, do they ever make any proviſion for futurity; and though the labour required for cultivating a ſufficient quantity of Caſſava is ſo trifling, yet they often delay their cares on this particular, till they are not only deſtitute of Piworree, but even of bread, in which caſe they contentedly recur to the uſe of Sipera, or Green-heart-tree Apples.

This indolent neglect and unconcern, which, in a colder climate, would be productive of miſery, in this occaſions only preſent inconvenience, and conſtitutes in their diſpoſitions a happy tranquillity, which is immutable either by want or abundance. When ſurrounded with

with plenty, they are voracious and intemperate; when their ſituation is the reverſe, they abſtemiouſly ſuffer the inconveniencies of want, without apparent deſire or anxiety. If human happineſs conſiſts in contentment, theſe people muſt neceſſarily be, of all others, the moſt happy; where they have no wants but what are eaſily ſupplied, and where all are in a ſtate of perfect equality, in which the tortures of diſcontent, envy, ambition, and avarice cannot poſſibly exiſt.

As the *Indians* have no method of Computing Time, for any number of years, it is impoſſible to aſcertain the length of their lives; many of them, however, appear covered with wrinkles, and all other marks of old age, except baldneſs and grey hairs, from which they are all exempt, even in the moſt advanced age. They, however,

calculate

calculate the diſtance of events by intervening Moons, where their number does not exceed ten or twelve; but after that they ſeldom remember their number with any exactneſs. Their method of Numeration is by units, tens, and ſcores, till they reach an hundred, after which they have no exact method of expreſſing the number of objects, but uſually do it, by ſhewing ſuch a quantity of hairs as they think has the neareſt relation to the numbers of which they would convey an idea.

In all their traffic, either with each other or the *Europeans*, they eſtimate the value of things according to their preſent want; and an *Indian* at one time ſhall require an ax, in exchange for that for which at another he will demand only a fiſh-hook, without regarding any diſproportion between their value.

The

The *Arrowauk Indians* never engage in any wars with their neighbours, nor even in the practice of making ſlaves from among the interior inhabitants, to which the *Dutch* have incited the *Carribbee* and *Accawau* tribes. Whether they are ſenſible, that hands were not given them to deſtroy each other; or whether they are influenced by puſillanimity, I will not determine; they have, however, maintained themſelves in a ſtate of perfect independence without wars. This is by no means difficult among uncivilized nations, if care is only taken not to injure or provoke them to revenge. An acquiſition of uſeleſs territory, or of uſeleſs ſlaves, cannot poſſibly excite a people to war; and it would be difficult to maintain a nation in ſubjection, who have ſo few wants; and to attempt it, would be a certain trouble without any advantage. And we find that all barbarous nations

engage

engage in war from a ſpirit of revenge, rather than views of intereſt; except only where they have an opportunity of ſelling thoſe priſoners to others, which to themſelves would be uſeleſs. Such an opportunity has indeed been furniſhed to the *Indians* of *Guiana*, ſince the *Dutch* have made ſettlements on this Coaſt; but they have prevented its injuring the peaceable *Arrowauks*, by exempting them from the poſſibility of becoming ſlaves.

In reviewing the Manners of theſe *Indians*, ſome few particulars excepted, I ſurvey an amiable picture of primæval innocence and happineſs; which ariſes chiefly from the fewneſs of their wants, and their univerſal equality. The latter deſtroys all diſtinctions among them, except thoſe of age and perſonal merit, and promotes the eaſe, harmony, and freedom of their mutual converſation

and intercourſe. This facilitates the happineſs of the *Indian* Lover, who finds no obſtacles to the fruition of his deſires from inequality in rank or fortune, or from the views which ambition and intereſt inſpire; and this annihilates all envy and diſcontent. But the advantages reſulting from the paucity and ſimplicity of their deſires, contribute to their felicity in a more eminent degree. Man's real wants are but few, and thoſe few not long; though in civilized countries they have been multiplied by luxury and refinement to an excruciating exceſs.

Thoſe who have been unhappily familiarized to all the various refinements of luxury and effeminacy which attend the Great, and whoſe deluded imaginations eſteem them eſſential to happineſs, will hardly believe that an *Indian*, without any other covering but what

what modeſty requires, with a ſhelter which cannot deſerve the name of a houſe, and the few culinary and domeſtic utenſils which I have already enumerated, without any other terreſtrial poſſeſſions, and only the ruſtic food which is procured by hunting, dreſſed without variety, art, or delicacy, could form any pretenſions to felicity; and yet, if I may be allowed to judge from external appearances, the happineſs of theſe people may be juſtly envied even by the wealthy of the moſt refined countries; as their happy ignorance of thoſe extravagant deſires and endleſs purſuits, which agitate the great luxurious world, excludes every wiſh beyond their preſent enjoyments.

The fewneſs and ſimplicity of their wants, with the abundance of means for their ſupply, and the eaſe with which they are acquired, renders all di-

viſion of property uſeleſs. Each amicably participates the ample bleſſings of an extenſive country, without rivalling his neighbour, or interrupting his happineſs. This renders all government and all laws unneceſſary, as in ſuch a ſtate there can be no temptations to diſhoneſty, fraud, injuſtice, or violence, nor indeed any deſires which may not be gratified with innocence; and that chimerical proneneſs to vice, which, among civilized nations, is thought to be a natural propenſity, has no exiſtence in a State of Nature like this, where every one perfectly enjoys the bleſſings of his native freedom and independency, without any reſtraints or fears, but thoſe of religion, which their Peii's have artfully created: To theſe, however, the inhabitants of all countries are, in a greater or leſs degree, ſubjected.

To

To acquire the art of diſpenſing with all imaginary wants, and contenting ourſelves with the real conveniencies of life, is the nobleſt exertion of reaſon, and a moſt uſeful acquiſition, as it elevates the mind above the viciſſitudes of fortune. Socrates juſtly obſerves, "That thoſe who want leaſt approach "neareſt to the Gods, who want no-"thing." The ſimplicity, however, which is ſo apparent in the manners of theſe *Indians*, is not the effect of a philoſophical ſelf-denial, but of their ignorance of more refined enjoyments, which, however, produces effects equally happy with thoſe which reſult from the moſt auſtere philoſophy; and their manners preſent an emblem of the fabled Elyſian fields, where individuals need not the aſſiſtance of each other, but yet preſerve a conſtant intercourſe of love and friendſhip.

O fortunati nimium, bona ſi ſua nórint.

VIRG.

Theſe *Indians* are indeed unlettered and ignorant, as are all thoſe whoſe wants are few; the progreſs of arts and ſciences having ever kept pace with luxury. Mankind ſeldom attend to objects, which are not connected with either their pleaſures or neceſſities; and where curioſity is thus unexcited, reaſon will never undergo the trouble of inveſtigating the properties and cauſes of objects, which, when diſcovered, could afford no entertainment: Where, therefore, the wants and deſires of mankind are few, their enquiries, and conſequently their knowlege, will be confined. This ignorance, however, is a vehicle of happineſs to theſe *Indians*, as it would certainly render them miſerable to be endowed with ſentiments and deſires above their capacity of enjoyment; and happy will it be, if they never emerge from their preſent ſtate.

Several

Several moderns, celebrated in the literary world, from obſerving the innocence and happineſs which ſavage nations enjoy, though ignorant of the liberal arts, have from thence inferred, that arts and ſciences were prejudicial to civilized ſociety, and have proceeded to charge them with all the ill effects reſulting from luxury, which has ever been their companion, or rather their parent. In this, however, they have egregiouſly erred; as thoſe things which, in a State of Nature, are uſeleſs, may be highly ſalutary in a State of Civilization; as arts and ſciences are the ſureſt antidote againſt the evils of luxury and refinement. The ills of civilized ſociety have their ſource in the unnatural inſtitution and unequal diſtribution of property, which is neceſſarily produced by the different degrees of ſagacity, induſtry, and frugality in individuals, tranſmitted to, and aug-

mented by, an accumulating poſterity, till the diſproportion in the poſſeſſions of different individuals becomes enormous, and creates a thouſand unnatural diſtinctions among mankind, enabling ſome to ſquander the bread of provinces in a profuſion of ſatiating pleaſures; while multitudes ſuffer by want, inſulted by every ſpecies of ſubordinate tyranny, and oppreſſed by every law which gives others protection; while objects ſtill more wretched, who are emaciated with the complicated evils of hunger and diſeaſe, uncloathed even with rags, diſclaimed by the world, and abandoned to the rigours of winter, penury, and deſpair, and whoſe miſeries rather excite horror than compaſſion, daily ſhock humanity. Thus the exceſſive diſproportion of wealth renders the poor miſerable, without augmenting the happineſs of the rich. When this diſparity becomes conſiderable, then, and

not

not till then, luxury advances with all its attendant pleaſures and refinements, which, without communicating an increaſe of happineſs to thoſe who enjoy them, tempt thoſe who have them not to endeavour to acquire them by unjuſt and violent means. Mankind are then taught to connect the idea of happineſs with thoſe of dreſs, equipage, affluence, and all the various amuſements which luxury has invented; thence they become the ſlaves of a thouſand unnatural imaginary wants, which become the ſource of envy, diſcontent, fraud, injuſtice, perjury, and violence, by ſtimulating inordinate appetites, and creating unnatural temptations to vice, too powerful for the ſway of reaſon; and thus mankind becomes the author of moral Evil.

We, in a ſtate of civilization, univerſally complain of an inability to conform

form to the dictates of reaſon and virtue: an inability which has been unjuſtly charged to a natural propenſity to vice, but which is the ſole production of luxury, and unknown in a ſtate of nature. Luxury, however, in generating immorality, likewiſe promotes the advancement of literature, which, by a variety of means, tends to repreſs and diſcountenance vice. A ſtate in this ſituation, like a body corrupted by intemperance, requires to be ſupported by the continuation of corrupt means; and luxury in the rich promotes induſtry and arts, and feeds and cloaths the labouring poor, who would otherwiſe ſtarve. Thus by an unnatural perverſion of things, the members of a corrupt ſtate derive advantage not only from the follies, but vices of each other; and the fabulous ſpeech and confeſſion of a dying malefactor prevents many from ſtarving.

But

But every kind of life has its peculiar advantages as well as evils. The vices of civilized countries, though more numerous, are leſs terrible. Artificial wants extend the circle of our pleaſures; and even luxury, by multiplying our deſires, enlarges our capacity for happineſs. Whether, therefore, we paſs life in the ruſtic ſimplicity and ignorance of *Hottentot* Barbariſm, or in the endleſs pleaſures of Refinement and Luxury, we ſhall all arrive to the ſame end, and perhaps with an equal portion of happineſs, as far as it depends on external enjoyments, abſtracting only the miſeries of real want and diſeaſe.

However various the conditions of mankind may be, the diſtribution of happineſs and miſery in life, is far from being ſo unequal as is generally believed: Good and evil are indiſcriminately mingled in every cup; the Monarch

narch in his purple, and the Beggar in his rags, are expoſed to their reſpective cares and afflictions. Agreeable objects, by poſſeſſion and familiarity, loſe their aptitude and capacity for pleaſing; and in every ſtate of life, hope ends in diſappointment, and enjoyment in ſatiety. From this concluſion juſtice, however, obliges me to except the happineſs I once derived from your endearing ſociety and converſation, unallayed by enjoyment; and I can with truth aſſure you, that neither abſence, nor diſtance of ſituation, will ever impair the eſteem and devotion with which I moſt affectionately am,

Dear Brother,

Your, &c.

LETTER IV.

Rio Demerary, Nov. 15, 1766.

Dear BROTHER,

FROM my preceding Letters you will be able to form an idea of the ſtate of *Guiana* before the *European* Nations viſited, and ſettled themſelves on this Coaſt. It now remains for me briefly to inform you of the ſubſequent changes which have been induced by *European* Policy, Induſtry, and Luxury. Religion I omit, becauſe that ſeems to have had no influence in theſe alterations. It is my intention, however, to confine my information, relative to theſe particulars, ſolely

ſolely to that part of *Guiana*, which is inhabited by the ſubjects of the United Provinces; my knowledge of the other *European* Colonies being too imperfect to merit a communication.

The moſt ancient and conſiderable of all the *Dutch* Colonies in *Guiana*, is *Surinam*; but as that River, with its Settlements, which were made firſt by the Subjects of *England*, are already ſufficiently known in *Europe*, I ſhall omit a deſcription of them.

Next in the order of ſituation is the Colony of *Berbice*, ſituated on the ſhores of the River of that name, about twenty-five leagues N. W. by W. ½ N. diſtant from *Surinam*, running from North to South, and diſcharging itſelf into the *Atlantic* Ocean. The Coaſt on each ſide of the River forms a Bay at its entrance, which is near a mile in width,

width, having a ſmall Iſland in the middle, known by the name of *Crab Iſland*. Oppoſite this Iſland, on the eaſtern ſhore, is a ſmall Poſt, with ſeveral pieces of cannon, and ſome ſoldiers; but the channel on the other ſide, which is navigable for veſſels of any burthen, is undefended, and covered by the Iſland from the guns on the oppoſite ſhore. Without the entrance of this River is a Bar, which, at high tide, has ſeldom more than ſixteen feet of water; but within, the water is of ſufficient depth, and the river is navigable, for ſhips of burthen, two hundred miles from its mouth.

The Plantations are ſituated on each ſide of the River, and extend near three hundred miles from its entrance, Fort *Naſſau*, which is the Seat of Government, and contiguous to which are the Public Offices, Churches, and

Houſes

Houſes of the Civil and Military Officers, being ſituated at one hundred miles from the mouth of the River; the *Dutch* having here, as in all their Colonies, neglected the lower and more fertile land, near the ſea-coaſt, for that which is more elevated, in the interior part of the country. At preſent, however, they are endeavouring to repair their error, and the Seat of Government is ſoon to be removed to a point of land on the eaſtern ſhore of *Berbice*, about a mile from its entrance, which is formed between *Berbice* and the River *Conya*, which there diſcharges itſelf into the former.

Conya is a narrow, but deep river, running from ſouth to north, but diverging ſomewhat eaſterly from *Berbice*. There are ſeveral Plantations on the ſides of this river, which makes a part of the Colony of *Berbice*, which is at preſent

preſent under the government of his Excellency *John Heyliger*, Eſquire, who is ſtiled Governor General.

This, like all the *Dutch* Colonies in the *Weſt Indies*, is under the juriſdiction of the *Dutch Weſt India* Company, and the lands are granted *gratis*, by the Governor and Court of Policy, to petitioners, upon conditional terms of ſettlement; and if theſe are not complied with, the land again reverts to the donors, and is granted to other petitioners. The inhabitants of this Colony, however, as well as thoſe of *Surinam*, are reſtricted from tranſmitting the produce of their Plantations (which is chiefly Sugar, Coffee, Cotton, and Cocao,) to any Port which is not within the Province of *Holland*; as thoſe of *Demerary* and *Eſſequebo* are obliged to export theirs to the Province of *Zealand*. Theſe are commercial regula-

tions, which have been thought to be for the mutual intereſt of the Company and Inhabitants.

In the year 1763 an inſurrection happened among the Slaves of this Colony, who rebelled to the amount of ſeveral thouſands, and maſſacred a conſiderable number of the White Inhabitants, while the reſt fled to Fort *Naſſau*, where, fearing their communication with the ſea-coaſt might be obſtructed, the then Governor, by the advice of his Council, precipitately blew up the Fort, and retired, with the White Inhabitants, on board ſeveral merchant ſhips in the River, and ſailed to its entrance, there to wait for aſſiſtance from abroad. This retreat left the Rebels the undiſturbed poſſeſſion of the whole Colony, and threw the inhabitants of the neighbouring Colonies, particularly of *Demerary* and *Eſſequebo*, into the utmoſt conſter-

conſternation, as they were the moſt contiguous to *Berbice*, and apprehended a viſit from the Rebels, which muſt have been attended with the moſt unhappy conſequences, as their own ſlaves were at leaſt five times more numerous than the White Inhabitants, and betrayed ſo eager a diſpoſition for revolting, that it was feared they would not have patience to wait for aſſiſtance from their brethren in *Berbice*.

In this critical ſituation, however, they experienced the advantage of their connection with the ſubjects of *Great Britain*, as at this time a ſhip of war, belonging to *Gedney Clarke*, Eſq; Collector of his Majeſty's Cuſtoms at *Barbadoes*, which had been put into commiſſion by Admiral *Douglas*, and was commanded by a Lieutenant of the *Britiſh* Navy, arrived with a Company of Marines, and another of Soldiers, raiſed

at the expence of Mr. *Clarke*, who was proprietor of ſeveral plantations in *Demerary*, as were ſeveral other Gentlemen in *Barbadoes*. This armament effectually fruſtrated the rebellious deſigns of the Slaves in *Demerary*, and the civil diſſentions among the Rebels of *Berbice* diverted them from their intended viſit. In the interim, however, the Governor of *Berbice* received a body of Soldiers from *Surinam*, and ſeveral armed veſſels from the Iſlands of *Curaçoa* and *St. Euſtatia*, with which he ſailed up the River, and took poſſeſſion of the *Dauger-head*, a large Plantation belonging to the *Weſt India* Company, where he maintained himſelf till the arrival of an armament from *Holland*, when the Rebels were ſoon driven from the woods, from whence hunger, and the arrows of the *Indians*, obliged them to return, and ſeek an aſylum in their former ſlavery. Several hundred of the

chief

chief promoters of this insurrection were however burnt, or broke on the wheel, with all the various species of cruelty for which the *Dutch* have been long notorious. Before this, however, several hundreds of the *Carribbee Indians* were, by the Governor of *Essequebo* and *Demerary*, engaged to take up arms against the Rebels, whom they not a little harrassed, by concealing themselves in the woods by day, and setting fire to their houses in the night, by shooting arrows fired at the point among the Troolies, with which they were thatched, and then killing the Negroes as they fled out in confusion.

About fifteen leagues North West from *Berbice* is the River *Demerary*, near three quarters of a mile in width at its entrance, which is in 6 deg. 46 m. North Latitude. On the east side is a sandy shoal, extending a little distance

from the ſhore; to avoid this, nothing is required but to enter the River near its middle, with its courſe in full view, when the water will be found deeper, and its entrance eaſier, than that of *Berbice* or *Eſſequebo*. A little within the mouth of the River, on the eaſt ſhore, is a ſmall Poſt, with ſeveral patereroes, which are very inſufficient for defending the mouth of the River againſt a veſſel of any force, though this is the only fortification in this part of the Colony. About eight leagues from thence are three Iſlands, at no great diſtance from each other. On that which is in the middle is the reſidence of the Commandant, and there the Courts of Judicature are held, and the Company's Troops are ſtationed. This River is navigable for veſſels of great burthen one hundred miles from its mouth, and is ſettled near one hundred miles farther. Two hundred miles from the

the entrance of this River are ſeveral Cataracts, from which the water falls by a long, but eaſy deſcent. Some diſtance above theſe the River divides into two branches, which diverge from each other about eight points, the one running S. W. and the other S. E. But their ſource has never been diſcovered by any *European*.

One league Weſt from *Demerary* is the Great River *Eſſequebo*, which, at its entrance, is nine miles from ſhore to ſhore. In its mouth are three Iſlands, called the *Lagueon Iſlands*, two of which extend ſome diſtance without the main land. Within theſe are the *Fortune Iſlands*, and within them a ſucceſſion of other Iſlands, which is continued the diſtance of twelve or fourteen leagues from the River's mouth, which, on the eaſtern ſhore is defended by a Poſt ſimilar to that in *Demerary*, though the

weſtern channel is intirely defenceleſs. Fort *Zealand* is ſituated on an Iſland known by the name of the *Fort Iſland*, lying about ten leagues above the entrance of the River. This Fort mounts about forty pieces of cannon, and on this Iſland is the uſual reſidence of the Governor, and other Officers of Government, as well as of ſome of the Planters, &c. On this, and all the other Iſlands, as well as on each ſide of the River, for a great diſtance, are Plantations, producing Sugar, Coffee, and Cotton chiefly.

The River *Eſſequebo* receives a great number of creeks and rivers on each ſide; but the principal ſtream has its ſource more than three hundred miles from the ſea-coaſt, diverging weſterly from *Demerary*, whoſe courſe from the entrance is nearly South to the place where it divides into two branches. Beſides

ſides theſe, there are the Rivers *Pomaroon*, *Currantine*, *Merriwina*, and a great number of ſmall rivers and creeks diſcharging themſelves into the North Sea; but as they are all unſettled, I ſhall not deſcend to a deſcription of them. All theſe, as well as ſeveral of thoſe Rivers which are ſettled, are unknown to *Engliſh* Geographers, and not to be diſcovered in any Charts of that country that I have ever ſeen.

Eſſequebo and *Demerary*, on account of their proximity, are comprized in one Colony, which bears the name of both Rivers, and is under the government of his Excellency *Laurence Storm Van Graveſande*. *Eſſequebo* is the moſt ancient, having been ſettled near ſixty years; though no great advances were made in agriculture till lately. *Demerary*, which has been ſettled but little more than twenty years, at preſent promiſes

miſes fair to become a moſt flouriſhing Colony, with proper encouragement; though the *Dutch* do not beſtow all the attention on theſe colonies which they deſerve, and in ſome meaſure neglect the *Weſt* for the *Eaſt Indies*.

The Plantations of theſe Colonies are ſituated in ſingle tiers on each ſide of the River, extending ſeven hundred and fifty rods in depth from the River, but are of different extent in front, according to the productions to which they are appropriated; thoſe for Sugar extending uſually either a thouſand or fifteen hundred rods in front of the River; thoſe for Coffee or Cotton ſeldom exceed five hundred. Between each plantation the Company has reſerved twenty-four feet of ground, on which roads are to be made, if ever a ſecond row of plantations ſhould be formed behind the firſt. Sugar plantations are deemed

deemed the moſt profitable, and are the objects to which all aſpire. Thoſe, however, whoſe fortunes are unequal to ſo expenſive an undertaking, content themſelves with Coffee or Cotton Plantations, till they have thereby ſufficiently improved their ſtock for undertaking a greater object.

The Sugar-mills of theſe Colonies are either turned by mules, obtained chiefly from the *Spaniards* of *Oronoque*, by illicit traffic, or by wind, or water. The dwelling-houſes are uſually ſurrounded by piazzas, which in this climate are particularly convenient. The plantations near the ſea-coaſt are at preſent eſteemed much the moſt valuable. They indeed require to be not only ſurrounded with dykes, for excluding the water which overflows the adjacent woods, and to defend them from the inundation of the tides, which

riſe

riſe to a great height, eſpecially near the Vernal and Autumnal Equinoxes; but alſo to be incloſed and interſected by trenches with gates emptying into the River, which at low tide are opened for diſcharging the water which may have fallen on the plantation by rain; all which requires no ſmall labour: But it is amply repaid by other attendant advantages. The trenches ſerve for canals, by which the canes are, with great facility, tranſported to the mills; the fertility of the ſoil is inexhauſtible; and the land, being covered with but little elſe than Troolies and Manicoles, is much eaſier cleared than in the more elevated parts of the River, where indeed dykes and trenches are unneceſſary; but the fertility of the ſoil is much leſs durable, and the lands are covered with large timber, which, in hardneſs, ſolidity, and weight, is but little inferior to iron: This, however, though

though it augments the labour in clearing lands, is far from being the leaſt advantageous production of this country.

Many of the largeſt and moſt flouriſhing Plantations, both in *Eſſequebo* and *Demerary*, but eſpecially in the latter, are the property of *Britiſh* ſubjects, who have been induced to form ſettlements in this Country, by the peculiar advantages with which it is endowed; and though the *Dutch* in *Surinam*, and all their other Colonies, are ignorant of the art of converting Melaſſes to Rum, with advantage, yet in this Colony they have been, by the *Engliſh* inhabitants, perfectly inſtructed in the arts of Diſtillation, and produce Rum, which is not inferior, in any reſpect, even to that of *Jamaica*. The White Inhabitants of this Colony are *Dutch*, *Engliſh*, *French*, *Swiſs*, and *Germans*, but chiefly the

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two former. Many of theſe are unfortunate perſons, whom the unavoidable accidents of life, or frowns of fortune, have induced to ſeek an aſylum in diſtant countries, where their induſtry is often ſo amply rewarded, that they are enabled to return with opulence and credit, and bleſs thoſe accidents which reduced them to the neceſſity of abandoning their homes, and which they once eſteemed the greateſt misfortune.

Agriculture, and all other labour, in theſe Colonies, is almoſt wholly performed by Negroes (who are ſufficiently known in *England,)* as the White Inhabitants undertake no laborious employment; and even the mechanics do but little more than overſee and direct the Slaves, which are at leaſt five times more numerous than the Whites, and are therefore kept at a ſubmiſſive and humble diſtance by ſeverity of diſcipline,

pline, which not only contributes to the ſafety of the White Inhabitants, but even to the happineſs of the Slaves; the impoſſibility of attaining, is ever found to deſtroy the deſire of enjoyment; and rigid treatment, by annihilating every hope of liberty, renders them content with the enjoyment of ſlavery. The late inſurrection of the Slaves in *Berbice*, who of all others were the moſt favoured, affords a recent example of the danger of too much indulgence to Slaves, by which they are excited to attempt the perfect recovery of liberty. In this ſtate there is no medium; either the minds of ſlaves muſt be depreſſed by abject ſlavery, or the lives of their maſters are in imminent danger. For this reaſon they have been oppreſſed by many humiliating penalties and diſtinctions. Their evidence, relative to a White Perſon, is of no validity; an attempt to ſtrike a White

a White Inhabitant is punifhed with death; and their maſters, or overſeers, have not only the power of inflicting corporal puniſhment, but are in ſome meaſure allowed to exerciſe a right over their lives, ſince the putting a Negro to death, is attended only with a pecuniary puniſhment. In this ſituation they are ſubjected to many complicated ſpecies of miſery, expoſed to the tyranny of the imperious, and luſt of the libidinous, and to an inceſſant toil, which will have no period but with their lives. This treatment has the appearance of cruelty, and cannot be reconciled to the principles of juſtice and equity; many things, however, which are repugnant to humanity, may be excuſed, on account of their neceſſity, for ſelf-preſervation.

The expence of maintaining the Slaves, in this climate, is very trifling.

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The firſt year that a ſlave is purchaſed, he is ſupplied with food by his maſter, and is aſſigned a piece of ground, which on Sundays he clears from the wood, and plants with yams, plantins, edda's, caſſava, ocro's, &c. but eſpecially the former, which produce ten thouſand pounds per acre. When the year is expired he recurrs to his planting-ground for his future proviſion, which he is ever after to keep ſupplied with a ſufficient ſtock for his ſuſtenance, for which he is allowed every Sunday only; receiving, however, from his maſter a weekly allowance of dried fiſh, to the amount of a pound and an half, which is all that his maſter contributes towards his food. The females receive the ſame treatment, and the drink of both is nothing but water; yet from this water, and theſe farinaceous and eſculent vegetables, with a morſel of dried fiſh, theſe people derive

ſufficient nutriment to ſuſtain the hardeſt labour in the moſt enervating climate.

The cloathing of the Negroes (the houſhold ſlaves excepted) is ſcarce ſufficient to anſwer the demands of modeſty. Several modern Compilers of the Hiſtory of our *Weſt India* ſettlements have enumerated ſtockings and ſhoes among the articles of cloathing for the Negroes, though nothing could more certainly betray their ignorance of this ſubject, ſince a ſlave in ſtockings and ſhoes, in theſe countries, would be as uncommon a ſpectacle, as a Negro inſtructed in the principles of Chriſtianity; and if any of them have either ſhirts, breeches, or petticoats, they are the produce of their own private induſtry, as their maſters furniſh only a piece of coarſe blue, or brown linen, which is applied to the middle

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in both ſexes, and a blanket, with which the ſlave covers himſelf at night, ſleeping on boards only.

In theſe, as in all other *Weſt India* Colonies, the ſlaves diminiſh in number, unleſs recruited by ſucceſſive ſupplies from *Africa*. This decreaſe has been attributed to various cauſes, but moſt commonly to hard labour and oppreſſion, though with very little appearance of reaſon, ſince they are much more robuſt, healthy, and vigorous than their maſters. They are, indeed, ſpurred to induſtry by the whip of correction, which is ever at their heels, and not ſparingly exerciſed; but coarſe food, with hard labour, are ever accompanied with the bleſſings of increaſed health and vigour, which the pampered effeminate ſons of luxury may juſtly envy, but can never attain; and the true cauſe of their want of increaſe

reſults from the intercourſe of the Whites with the young wenches, who derive no inconſiderable emolument therefrom; and as child-bearing would put an end to this commerce, they ſollicitouſly uſe every precaution to avoid conception; and if theſe prove ineffectual, they ever procure repeated abortions, which incapacitate them from child-bearing in a more advanced age, when they are abandoned by the Whites. For effecting this, they have various means; but the moſt artful prepare themſelves by a diet on Ocro's, by which they lubricate the uterine paſſages, and afterwards expel their contents uſually by the Senſitive Plant; though in *Barbadoes*, a vegetable, called by the name of Gulley-root, is commonly uſed for this purpoſe. This unnatural practiſe is very frequent, and of the higheſt detriment to the Planters, whoſe opulence muſt otherwiſe be immenſe,

menſe, in a country where their ſlaves are fed with little or no expence to their maſters, and where winter neither interrupts their labour, nor renders cloathing neceſſary. To avoid the diſadvantages of this practice, many of the Planters of this Colony are endeavouring to encourage the wenches to child-bearing, by particular rewards and immunities, which, in ſeveral inſtances, have proved ſucceſsful. That this is the true cauſe of their decreaſe, is farther evident, from obſerving the ſituation of *Virginia* and *Maryland*, where the Slaves increaſe, without any addition by importation, becauſe this pernicious copulation is there deteſted, as infamous and unnatural.

The Inhabitants derive no ſmall aſſiſtance from the *Indians*, particularly the *Arrowauks*, ſome of whom reſide on almoſt every plantation, and are em-

ployed in various ſervices, but eſpecially in hunting and fiſhing, which, being their natural employment, they are able to exerciſe it with uncommon art and ſucceſs, and may be hired with a few baubles for ſeveral months. Theſe *Indians*, however, are debauched by luxury and intemperance, and their manners but ill agree with thoſe of the *Indians* who have preſerved their natural innocence and ſimplicity; and they are encouraged in their propenſity to intemperance by the Whites, who freely ſupply them with Rum, thereby to attach them more firmly to their ſervice; a practice, which conſiderably impairs their health, and diminiſhes their numbers. Effects ſimilar to theſe have happened in every part of *America*, where the *Aborigines* have maintained an intimate intercourſe with the *Europeans*, from the unnatural union of our vices with the manners of the *Indians*; and

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it is a piece of refined and uſeful policy in the *Jeſuit* Miſſionaries of *Paraguay*, to exclude their New Converts from all intercourſe with Foreigners, not only to anſwer the purpoſes of that politic Society, but alſo to preſerve them in a happy ignorance of our vices, which alone could ſecure them from being corrupted by their example. "Si velis "vitiis exui, longe a vitiorum exemplis "recedendum eſt. . . . . Nullo ad au- "res noſtras vox impune perferatur *." The cauſe of theſe effects is obvious; we contaminate them with our Vices, but withold the Antidotes of Religion, Morality, and Literature.

The *Dutch*, in theſe Colonies, encourage intermarriages with the *Indian* women; and ſeveral of the moſt conſiderable families, in rank and fortune, in *Eſſequebo*, derive their origin from

* *Sen. Epiſt.* xxviii. & civ.

theſe alliances; by which the *Dutch* have acquired an aſcendancy and influence over the *Indians*, which is of the utmoſt uſe and importance; and the Governor not only reſerves to himſelf the deciſion of their differences, but by his order prohibits the ſeveral contiguous Tribes from committing hoſtilities on each other: And though he has no other means for enforcing theſe orders, except a few deſpicable ſoldiers, in the ſervice of the Company, they yet receive an humble and implicit obedience.

As there are no public roads in this, or the neighbouring Colonies, for any conſiderable diſtance, the only method of travelling is by water, in Yatches, with convenient tents, elegantly ornamented, and ſix, eight, or ten oars, rowed by *Negroes*, or *Indians*, and that always with the current of the tide, which

which ebbs and flows with irreſiſtible rapidity, in all theſe rivers, near two hundred miles from their entrance, by which you may conceive how level and even the country muſt be. When the current of the tide turns, the traveller ſtops, not at an inn, or tavern, for none are to be found, but at whatever plantation he chuſes, where, though an intire ſtranger, he is made welcome to every thing it can afford; the hoſpitality of this Colony not permitting money to be any where received for victuals or drink; and a ſtranger, on his arrival here, is every where welcome to board and lodging for months or years.

The Lands of this Colony, like thoſe of *Berbice*, are granted *gratis*, upon conditional terms of ſettlement; and the Governor is appointed by the Company, with the approbation of the States General,

neral, who, with his Council, which are chosen by the Burghers, or their substitutes, compose the Legislative Authority, and impose such taxes as are requisite for the support of Government. They likewise form the Supreme Court of Judicature in Criminal and Civil Causes, from which, in the latter, Appeals are allowed to *Holland* for sums exceeding twelve hundred Guilders. This Court examines the evidences, and from their testimonies determines the cause, without hearing Counsel on either side. For this conduct they have several reasons. Multiplicity of law-suits are universally allowed to be particularly detrimental to new countries. Lawyers, they think, not only tend to promote them, but also to protract, embarrass, and perplex judicial proceedings. How far these conclusions are just, I will not determine; Right and Wrong, Justice and Injustice, are sometimes so obscure, that

that the aſſiſtance of Council may be uſeful; but where the Members of a Court of Judicature, as in the preſent caſe, are but little verſed in the ſtudy of Law, inſtead of acquiring uſeful information, they would be in danger of being miſled by the ſubtilties of pleadings, and the arts of litigation. Beſides, this would naturally enhance the expence of judicial determinations; to prevent which, the Government is here particularly ſollicitous, to their honour I ſpeak it, as in ſome countries the neceſſary expences in this particular have been ſo enormouſly augmented, not only by multiplicity of fees, but by ſtamps, and other duties, on the ſeveral inſtruments required, that the means of obtaining a judicial deciſion are beyond the reach, not only of the poor, but even of people in moderate circumſtances, who, in effect, ſuffer an abſolute deprivation of juſtice; whereas in this Colony,

lony, the whole expence of a Law-ſuit is but a ſingle ſhilling for a Summons. I ſay a Summons, becauſe the body of no inhabitant can be arreſted except for a criminal offence: But the inconveniences which might reſult from this uſeful regulation are prevented, by a Law, which prohibits all inhabitants from leaving the Colony without a paſsport, which can only be obtained, either by previouſly notifying the intention of departure, or by providing ſecurity for the diſcharge of any remaining debts.

The Company has reſerved to itſelf the right of regulating our commerce for the mutual advantage of the Parent-country and Colonies; but in exerciſing this right they have been particularly attentive to the intereſt of the latter, as they are ſenſible that colonization can only be promoted by indulgence; and though we are obliged to tranſmit our

Sugar,

Sugar, Coffee, Cotton, Cocao, &c. to the Province of *Zealand*, yet we have liberty to export Rum, Melaſſes, Timber, &c. to foreign countries, and to import from them all commodities which we want, without diſtinction, and uncharged with duties.

I think I have now given you an account of the moſt material particulars relative to the State and Government of theſe Colonies; one thing yet remains to complete my undertaking, which is an Account of the Diſeaſes of *Guiana*. Theſe are as numerous as in other countries, where they have been augmented by cookery, with its ſtimulating provocative arts, exciting inordinate appetites, by multiplying the variety of diſhes, which, blended in the ſtomach, compoſe ſuch an incongruous medley, that the digeſtive organs cannot poſſibly aſſimilate the pernicious maſs to wholſome

wholſome chyle. Nor has intemperate luxury been confined to this ſingle innovation: Water, the natural drink of mankind, as of all other animals, is now contaminated by the mixture of pernicious ſpirits, which have poiſoned one of the principal bleſſings of life. From this ſource are derived thoſe tribes of diſeaſes which oppreſs humanity, and which are ſo far factitious, that they can hardly be deemed the proper objects of Natural Hiſtory. There are ſome diſorders, however, which are peculiar to Tropical Countries, and which depend rather on the variations of climate than the innovations of luxury; but theſe are the peculiar objects of medical reſearches, and therefore I ſhall not deſcend to minute particulars on this ſubject.

Among ſuperficial, or cutaneous diſorders, the moſt troubleſome is an *incu-*

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rable Leproſy, which indiſcriminately attacks all the different tribes of people inhabiting thoſe parts of *America* which are ſituated between the Tropics. The diſtinguiſhing characteriſtic appearances of this diſeaſe are, a ſwelling on the tips of the ears; an eruption of red tubercles, or bumps, of different ſizes, on the face, neck, limbs, &c. which, after ſome time, frequently aſſume a livid, or copper colour, and become ſchirrous, often ulcerating, and diſcharging a fetid ichor: the features of the face ſwell and enlarge, the eyebrows are inflated, and their hair, together with the beard, fall off; the *alæ naſi* are tumified and ſcabrous, the noſtrils patulous, and ſometimes ulcerated, as is alſo the *ſeptum naſi*, which is then depreſſed, together with the noſe. The lips alſo ſwell, the voice becomes hoarſe, and the nails rugoſe and ſcabrous. In proceſs of time the diſeaſe corrodes the

fingers

fingers and toes with a dry, ſordid, ſcabby, and gangrenous ulcer, from whence they putrefy, and ſeparate, joint after joint. The legs are commonly ſwelled, ſcaly, and indurated, and often covered with tubercles. The ſkin on the face aſſumes a ſhining appearance, and the breath becomes offenſive. The diſeaſe attacks differently, but often ſuddenly, eſpecially when the *fomes morbi*, or latent ſeeds of the diſorder, are prematurely expelled by a *crapula*, or ſurfeit, groſs food, or inordinate paſſions. It is univerſally deemed infectious, and Lepers are ſeparated from the ſociety of mankind. The Iſland of *Deſirade* is appropriated for the reception of all thoſe unhappy perſons who are attacked by this diſorder in the *French* Colonies in *America*. In this country they are uſually ſent into the Woods, where they build houſes and plant fields for their own uſe, and thus wear out a life

life of ſolitude. I have, however, known leprous ſlaves, who have privately cohabited with their former wives a long time, during the courſe of the diſorder, without communicating the infection. Lepers are notorious for their ſalacity and longevity. The diſeaſe is always incurable.

The Yaws are ſpungey, fungous, yellowiſh, circular protuberances, not riſing very high, but of different magnitudes, uſually between one and three inches in circumference. Theſe infeſt the whole ſurface of the body, and are commonly ſo contiguous, that the end of the finger cannot be inſerted between them; and a ſmall quantity of yellowiſh pus is uſually ſeen adhering to their ſurface, which is commonly covered with flies, through the indolence of the Negroes. This is a moſt troubleſome, diſagreeable diſorder, though it is ſeldom fatal. Almoſt

all the Negroes, once only in their lives, are infected with it, and ſometimes the Whites alſo, on whom its effects are much more violent. It is uſually believed that this diſorder is communicated by the flies, who have been feaſting on a diſeaſed object, to thoſe perſons who have ſores, or ſcratches, which are uncovered; and from many obſervations, I think this is not improbable, as none ever receive this diſorder, whoſe ſkins are whole; for which reaſon the Whites are rarely infected; but the backs of the Negroes being often raw by whipping, and ſuffered to remain naked, they ſcarce ever eſcape it. It is uſual to promote the eruption of the Yaws, as ſoon as they appear, by giving ſulphur internally for ſome days. After ſeveral weeks, when the eruption is not only complete, but the Yaws ſuppurate, they may be cured by a ſalivation with mercury; but the moſt uſual method is, to com-

combine this medicine with camphor, and give it in ſmall quantities, ſo as to excite no ſenſible evacuation, and to direct its effects towards the external ſuperficies, by ſudorifics: And perhaps there is no good effect which can be procured by a ſalivation, which may not be more advantageouſly obtained by this method. By this treatment, the protuberances ſubſide, and the ſcales fall off, leaving the ſkin ſmooth and even. This effect may indeed be obtained by mercury, in any ſtage of the diſeaſe; but if it is exhibited too early, the diſorder will again return in ſome months. The infectious matter, depoſited on the ſoles of the feet, not being diſcharged, produces ſubcutaneous ſores, which are called Tubboes, and are often troubleſome for months, and even years. Theſe are uſually cauterized, or the ſkin is firſt ſcarified, and the hot juice of roaſted limes is applied.

Guinea-Worms are here ſometimes extracted from the *Negroes* lately imported from *Africa*, where they are generated in the freſh ſtagnant water. They are of a whitiſh colour, ſeveral feet in length, and in thickneſs equal to the large ſtring of a violin. They inhabit the cellular membrane, and move through its cavities over the whole ſurface of the body. When the Worm collects itſelf in a particular part, a ſwelling ariſes, which being ſuppurated, the head of the Worm appears, which is ſeized, and wound round a ſtick, as far as it can be extracted without breaking. When this happens, by too eager endeavours to precipitate its extraction, the abſceſs muſt be inſtantly dilated, and attempts made to recover ſome part of the broken Worm. If this is not done, not only the loſs of a limb, but even of life, frequently enſues, of which I have ſeen ſeveral inſtances. But the

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moſt ſucceſsful method is, to apply a cataplaſm of onions and bread, boiled with milk, to the ſwelling, and when the Worm appears, to ſecure its head to a piece of cotton, without attempting its extraction, and to give internally a mixture from the powder of black pepper, bruiſed garlic, and flour of ſulphur, of each an ounce, infuſed in a quart of rum, of which half a gill is to be drank morning and evening; by which, in a day or two, the Worm will be found coiled up under the poultice.

There is likewiſe a Worm reſembling a bean, but more ſlender, and pointed, which is bred in the muddy ſtagnant waters in the woods, and inſerts itſelf into the fleſh, chiefly about the ankles, and when extracted leaves a ſinuous callous ulcer, which is difficultly cured.

The Inhabitants of this, and the neighbouring *Dutch* Colonies, are perhaps of all others moſt afflicted with diſorders ariſing from Worms in the ſtomach and inteſtines, particularly the Slaves, with whom they abound in ſuch numbers as to an *European* would appear incredible. The cauſe of this uncommon production is by ſome attributed to verminous animalculæ generated in the ſurrounding waters of the low country, which, during the dry ſeaſon, ſtagnate, corrupt, and putrefy; though I think it may be more juſtly aſſigned to the crude indigeſtible diet, with which the Slaves are fed, which conſiſts chiefly of Plantins and Bananoes, but eſpecially the former, which, when ripe, are uſually eaten raw, eſpecially by the children, by whom they can be but ill digeſted. But from whatever cauſe they are produced, their number is ſo great, that the uſual remedies are very

very inſufficient for their deſtruction; for which reaſon the Planters in general have recourſe to the Cow-itch for that purpoſe. From whence its uſe was firſt ſuggeſted, I am uncertain; but its efficacy is indiſputable. The part uſed is the ſetaceous hairy ſubſtance growing on the outſide of the pod, which is ſcraped off and mixed with the common ſyrup, or melaſſes, to the conſiſtence of a thin electuary, of which a tea ſpoonful to a child of two or three years old, and double the quantity to an adult, is given in the morning faſting, and repeated the two ſucceeding mornings; after which a doſe of Rhubarb is uſually ſubjoined. This is the Empirical Practice of the Planters, who uſually, once in three or four months, exhibit the Cow-itch in this manner to their Slaves in general, but eſpecially to all the children without diſtinction; and in this manner I have ſeen it given to hun-

dreds, from one year old upwards, with the moſt happy ſucceſs; the patients, after the ſecond doſe, uſually diſcharging an incredible number of Worms, even to the amount of more than twenty at a time, ſo that the ſtools conſiſted of little elſe than theſe animals. But though theſe were indiſputable proofs of its efficacy, I was far from being convinced of its ſafety. I obſerved, that the ſubſtance given conſiſted of an aſſemblage of ſpiculæ, exquiſitely fine, and ſo acutely pointed, that when applied to the ſkin they excited an intolerable itching, and even inflammation, from whence I apprehended dangerous conſequences from their contact with the coats of the ſtomach and inteſtines. Indeed, when mixed into an electuary, in the manner in which they are given, their elaſticity is ſo impaired, that they do not produce the ſame ſenſible irritation; but yet I could conceive no other

quality

quality on which their efficacy depended, especially after I had prepared both a tincture and decoction from the Cow-itch, and given them to Worm-patients without any sensible advantage. Influenced by these suggestions, I particularly examined the state and condition of all such patients as I knew had taken the Cow-itch; and yet can, with the greatest truth, declare, that, tho' prejudiced to its disadvantage, I was never able, either by my own observations, or a diligent enquiry, to discover a single instance of any ill consequence resulting from its use; which has been so extensive, that several thousands must have taken it; and as no ill effects have been observed, I think not only its efficacy, but safety, are sufficiently evinced, to entitle it to general use; especially when we reflect on the uncertainty, and even danger, which attends other Vermifuges. It is to be observed,

that

that this remedy is particularly deſigned againſt the long round Worm; whether it is equally deleterious to the *Aſcarides*, or whether it has ever been uſed againſt them, I am uncertain.

The *Colica Pictonum*, or *Weſt India* Dry Gripes, proceed from a painful ſpaſmodic conſtriction of the inteſtines, inducing an obſtinate coſtiveneſs, which continues till the patient is either relieved, or the diſeaſe tranſlated on the extremities. The cauſes to which this diſorder is aſcribed, are various, and unſatisfactory *. Some years ſince, Phy-

* The ingenious Dr. *Baker* has lately publiſhed an Inquiry concerning the Cauſe of the Endemial Colic in *Devonſhire*; a Diſeaſe which has a particular affinity to the *Weſt India* Dry Gripes; and the Doctor, in that Work, renders it more than probable, that this Diſeaſe derives its origin from Salt of Lead received into the body.

This

ficians obſerving, that when the coſtiveneſs was overcome, the patient was ſoon cured, from thence directed all their endeavours towards relieving this ſymptom, while the cauſe of the diſeaſe was wholly neglected. For this reaſon, draſtic purges were inceſſantly adminiſtred; and Anodynes, though ſtrongly indicated, were prohibited, leſt they ſhould impede the operation of the Cathartics. Later Phyſicians, however, being better inſtructed in the cauſe of the diſeaſe, copiouſly exhibit Anodynes and Antiſpaſmodics, which, with the *Ol. Ricini*, or Caſtor oil, taken by the mouth, and injected by

This is, indeed, a nervous poiſon, known to produce ſymptoms ſimilar to thoſe which characterize the *Weſt India* Dry Gripes, and which, in every part of the *Weſt Indies*, is received internally, either by the drinkers of Rum, or of Red Wines from *France*.

the *rectum*, thereby lubricating and relaxing the inteſtines, ſoon effect a cure.

Intermitting Fevers are here endemial, eſpecially near the Sea, where the air is extremely humid, and the paroxyſms terminate by profuſe debilitating ſweats, occaſioned by the exceſſive relaxation of the ſolids; and are often attended with ſymptoms indicating a putrid diſpoſition of the fluids. The efficacy of the Bark is particularly promoted in theſe countries, by the addition of Aromatics, eſpecially the *Virginia* Snake-root, and by the copious uſe of Pepper with the food, which is found to be the ſureſt preſervative againſt the return of this diſorder: Acids are likewiſe uſeful, and Alcalies the reverſe; ſeveral Practitioners, to my knowledge, having, on the authority

rity of *Boerhaave**, given *Sal Abſinth.* with the worſt effects.

The Bilious Putrid Fever of the *Weſt Indies*, is ſometimes obſerved in theſe Colonies. It firſt appears with the uſual febrile ſymptoms, but is ſoon diſtinguiſhed by the yellow caſt of the eyes and countenance, and by bilious vomitings, attended with great weakneſs and dejection. This diſeaſe ſoon proves fatal, unleſs the patient is timely ſuccoured by the Bark, Snake-root, and Vegetable Acids, which of all others are the moſt efficacious remedies.

The Bites of venomous Snakes are no where more frequent, or more fatal, than in theſe Colonies. To theſe accidents the Slaves are particularly expoſed,

* Vide *Aphoriſmi de cognoſcend. et curand. morbis.*

by

by conſtantly labouring, barefooted, in places frequented by theſe reptiles; many of which have happened within the ſphere of my practice, which, in every inſtance of this kind, has hitherto been attended with a happy ſucceſs; though my ſollicitude for the preſervation of life, and fear of truſting ſolely to any ſingle medicine, has led me into the uſe of ſo many remedies, that it is impoſſible to aſcribe ſucceſs to any one in particular, with certainty. This is here inevitable, on account of the great variety of Snakes, and our ignorance of the effects of their poiſon, which are extremely various. Sometimes a fatal diſſolution of the fluids enſues, but moſt frequently a painful tumefaction and inflammation of the wounded part, with a fever, &c. is the conſequence. In ſome inſtances the tumefaction ſubſides, without any apparent diſcharge; in others it is converted into an abſceſs,

which

which terminates in a copious flux of ichor, or pus. A cataplaſm from the pulp of lemons, or limes, with ſea ſalt, applied to the wounded part, is the general remedy for venomous Bites in theſe Colonies; and I have often uſed it with ſucceſs, after ſcarifying the wound: At other times I have ſucceſsfully ſubſtituted a cataplaſm from the Meal of the Seeds of the Vegetable Muſk, or wild Ocro plant, with Olive Oil; but to theſe I have uſually adjoined oily embrocations of the adjacent parts, with the internal uſe of the Treacle of *Andromachus*, Decoctions of *Seneca* and *Virginia* Snake-root, or an Emulſion of the Seeds of the Muſk plant. Theſe have hitherto been ſucceſsful, though there are undoubtedly Poiſons againſt which no art can avail, ſuch as that of the ſmall *Labarra*, above deſcribed.

Theſe

Theſe are the moſt material particulars which have occurred to my obſervation, during my reſidence in *Guiana*. Happy ſhall I think myſelf if they afford you either inſtruction or entertainment. My Obſervations and Enquiries might, indeed, have been much more extenſive, had I not been influenced by the indolent examples with which I was every where ſurrounded.

In taking a retroſpect of Animated Nature, I cannot but admire the Wiſdom and Goodneſs of that Power, who has ſo exquiſitely adapted the Organs and Diſpoſitions of all animal Beings to that life in which each is capable of enjoying the greateſt portion of happineſs, and who has cauſed each to be actuated with principles the leaſt expoſed to infringe the Order and Harmony of our material Syſtem. Voracious

cious animals, formed for a life of hoſtile rapacity, and who ſubſiſt by carnage and deſtruction, all, except Man, from inſtinct direct their hoſtility to objects endowed with the means of reſiſtance or eſcape; while inferior animals, eſpecially Inſects, who would otherwiſe become the prey of every invader, derive ſecurity from their minuteneſs. The Tiger wantonly deſtroys the objects of its rapacity for the ſake of deſtruction; but Man, tho' he indiſcriminately attacks both the weak and ſtrong, yet kills only in proportion to his wants, and even in deſtruction uſes œconomy; nay, in a ſtate of civilization he toils for, and feeds, the victims deſtined to his future ſuſtenance.

> The Hog that plows not, nor obeys the call,
> Lives on the labours of the Lord of all.
>
> POPE.

This, however, happens only in a ſtate where cultivated reaſon has inſpired a

concern for the wants of futurity, and is incompatible with that improvidence by which uncivilized nations are peculiarly characterized. — But I am detaining you with Reflections, which your own Reaſon will more advantageouſly ſuggeſt, and ſhall therefore conclude with aſſuring you, that I ſhall improve every occaſion of teſtifying the affectionate devotion with which I have the happineſs to be,

Dear BROTHER,

Your, &c.

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